SEPTEMBER/OCTOBER 1998

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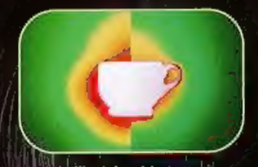

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C O N T E N T S

SEPTEMBER/OCTOBER 1998

Fall Maintenance Guide

Try these cures for the coming cold: Fertilize the lawn before its winter hibernation, tune up the mower, install freeze-proof outdoor taps, weatherstrip drafty windows and replace that leaky threshold under the front door.

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A GHOST SAT HERE? P. 118

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POOR FLOOR NO MORE, P. 124

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Reclaiming a Grand Queen Anne — 104

This Old House *readies a huge Victorian in Watertown, Massachusetts, for a much-needed makeover.*
By Brad Lemley

When Wood Meets Its Match — 112

Firewood season: time to split, stack and burn. Even tree huggers are sharpening their mauls.
By Nathaniel Reade

Old Haunts — 118

The Peyton Randolph House in Colonial Williamsburg fairly moans with history. Or are those sounds the murmurings of spirits—from a jolly slave to Thomas Jefferson—who have reportedly been sighted there?
By Jeannie Ralston

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Rejuvenating tired quartersawn red oak—restoring its 19th-century smoothness—is easier now, thanks to 20th-century machines. But doing it right takes loads of patience and means not skipping a single step.
By Alexandra Bandon

A Maine Original — 130

In the backwoods of the Pine Tree State, Bill Donnell runs one of the world's last remaining rift mills, which makes him the man to see when you need to re-side your house with the best clapboards in the world.
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How a Pro Should Paint Your House — 134

There are a lot of surprising secrets to a paint job that lasts. Most of them have nothing to do with a brush.
By Brad Lemley

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Become fluent in carpentry's mother tongue, and get better work from the guys who wear tool belts.
By Jeff Taylor

Cover: Norm Abram power-planes a door at the *This Old House* fall project in Watertown, Massachusetts. Photograph by Pascal Blanchon. See story, P. 104.

(Continued on page 10)

PHOTOS, FROM TOP: KELLER & KELLER; GRANT DELIN; MICHAEL GRIMM; NOAH GREENBERG

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Working with architects can be a lot like rubbing a magic genie lamp. You have to be careful what you wish for.
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SHINGLE ALL THE WAY, P. 71

PHOTOS, FROM TOP: CHARLES HARRIS; DAVID PRINCE; ESTO/PETER AARON

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mazda

ALEXANDRA BANDON recently spent two weeks working on a Habitat for Humanity house in Wartburg, Tennessee. "I was up on the roof, laying shingles in 90-degree weather. It was a great feeling," says Bandon, who wrote "A Lawn Good-Bye" (page 87), "Not Through This Doorway!" (page 96) and "Be Kind to Your Mower" (page 98). Writing "Going for the Gleam" (page 124), an article on wood floors, almost tempted her to refinish the parquet in her apartment. "Then again," she says, "I am a renter."

NATHANIEL READE says that, in his hometown of Paris, Maine, "People start fires to heat their houses—it's a utilitarian thing, like starting your car." Reade's like-minded attitude changed when, researching "When Wood Meets Its Match" (page 112), he took an excursion into the woods with Ray Reitze, a wilderness-skills teacher trained by a Micmac Indian. "He showed me that building a fire isn't just a technique," Reade says. "It's about love and sex and everything in life." Reade is a contributing editor at *Ski* and has written for *G.Q.*, *Outside* and *Yankee* magazines.

NICK RAVO, who wrote "Empire Building" (page 67), was "pleasantly surprised to find that you can make money on rental property these days." Ravo spent four years covering the housing market for the *New York Times*. "I thought that the real-estate slump of the early 1990s had knocked out the rental market," he says. "But today anyone who has a penchant for business and patience for tenant hassles can profit from owning property." Ravo now reports for the Metro Section of the *Times*.

WILLIAM HUBER photographed the *This Old House* TV show's project in Watertown, Massachusetts, in its most primitive, eclectic state—"Reclaiming a Grand Queen Anne" (page 104)—and will follow the renovation for subsequent stories. "The house just has so many different colors of paint. Reds, blues—one room is completely orange," says Huber, a contributor to *Fortune*, *Rolling Stone* and *Yankee*. "And the bathrooms are like walking back into the 1930s. I'm curious to see how they can update the house but keep its own peculiar feeling."

HELP

LETTERS TO THE EDITOR
Got a problem? We can help. Got a gripe? We're listening. Have a happy experience with a supplier or manufacturer? Contact us via E-mail at Letters@toh.timeinc.com, or write to Letters, *This Old House* magazine, 1185 Avenue of the Americas, New York, NY 10036. Please include your phone number.

ASK NORM
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termites

Nibbling away in the dark, termites do more damage to our houses each year than do storms, earthquakes and fires combined. Until recently, the main defense—other than smart construction—was to hire a pest-control company to drench the soil with termiticides. When *This Old House* magazine reported 2½ years ago on bugs that eat the house, one manufacturer was just beginning to sell a more appealing control: bait stations that can be loaded with hexaflumuron, an insect-growth regulator that interferes with molting. Since then, the baits have attracted a great deal of interest. "You're actually killing termites, not just putting down something in the soil that repels them," says University of Kentucky entomologist Michael F. Potter. Because the poison is slow-acting, termites have time to spread it to nest mates. The main drawback: The product costs about $2,000, nearly double the cost of conventional treatment, in large part because the manufacturer sells only to pest-control firms that promise to monitor the stations monthly.

Recently, other companies have begun exploring or selling bait stations with microbial pathogens (such as fungi or bacteria lethal to termites) and metabolic inhibitors. Several bait stations can be affixed to wood where termites are feeding, greatly increasing the likelihood that the poison will be carried to the nest. And earlier this year, one manufacturer introduced the first do-it-yourself bait system. A box of 20 stakes, enough to ring a small house, sells for just $50 at home centers across the country. At last, here's a termite treatment that anyone can afford—and one that poses virtually no risk to people, pets or property.

Termites, unlike ants, lack a waist. The workers that eat wood in houses are flightless and white. Their winged counterparts form new colonies. When they show up indoors, it's time for professional intervention.

But read the fine print. Although the packaging claims the stakes are "guaranteed to protect your home from subterranean termite attack," the only compensation is a refund for the cost of the stakes, not for the cost of repairing any termite damage. The directions specify that the stakes are for prevention only, not for active infestations. Potter fears that home owners who use the product may overestimate what the stakes can accomplish. Many people don't realize that a bait stake in the ground is no more likely to draw termites to feed than is scrap wood or paper lying about. Although termites that find food lay down pheromone trails for others to follow, scientists can't yet duplicate the scent in a stable formula. "'Bait' is a bit of a misnomer," Potter says. "Termites can't sense the baits from any distance; they have to stumble on them." At one test house in Kentucky, bait stations went untouched during a full year of monitoring, even as streams of mature termites swarmed out twice to start new nests. A good pest-control company will watch what's happening and keep fiddling with placement of the stakes until the infestation ends. "A typical home owner would put stakes in the ground and check them once or twice," Potter says. "It's like fleas—you dip your pet and forget about it."

In addition, there has been little frontline testing of the do-it-yourself product's active ingredient, sulfuramid. Joe Mares, an entomologist for the manufacturer of the chemical, says that laboratory tests prove the compound kills termites and that it has been tested on 100 houses. But one sulfuramid bait sold to professionals carries a caveat that it is to be used only in combination with conventional termite treatments, including soil drenching. "Based on their experiences with that product, it's still too early to know what the bait component is accomplishing against structural infestation," Potter says. —*Jeanne Huber*

ORIGINAL STORY APPEARED IN THE MAY/JUNE 1996 ISSUE.

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MANUFACTURERS · MATERIALS · PRODUCTS · RESOURCES – PAGE 148

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PHOTO: DARRIN HADDAD.

Dishing It Up
My wife and I have one of the European dishwashers Penny Moser mentioned in "Can a Dishwasher Be Worth $1,000?" [May 1998]. As she stated, the European models are very quiet and efficient, but my greatest point of satisfaction is the degree of cleanliness achieved. With the machine's built-in salt dispenser for water softening and spotless drying, the dishes do indeed come out perfectly clean. OK, so it's not the most macho tool or appliance, but I can tell you about my collection of German chisels later....

Michael Rimoldi, *Frankfurt, Germany*

Having a Ball
Your article ["Bocce Bella," May 1998] prompted me to build a 12-by-60-foot court to make use of a bocce set I received as a gift five years ago. The article and photos were all that was needed to make the court; working by myself, it took a couple of weeks. I read the materials list on page 182 and noted that it called for "4 tons of stone dust spread 4 inches deep." My order of 17 tons for 5-inch coverage turned out to be just enough with a couple of wheelbarrow loads extra for repairs. It appears the correct amount for 4-inch coverage would be 14 tons instead of 4. I am having as much fun as the family in the article did.

Ed Jones, *Hopkinton, N.H.*

The amount specified should have been 12 to 14 tons, according to Sam D'Agata of O. Mahoney, a construction supply company in Lawrence, Massachusetts, where project contractor Ralph Dellatto often buys materials.

Bridge Coverage
My wife and I loved your article on rebuilding covered bridges ["Covered Bridges to the Past," May 1998]. In June 1996, armed with a map from the Kentucky Covered Bridge Association and our thirst for discovery, we set out on a two-day tour to see the remaining 13 covered bridges in Kentucky. Near Frankfort, we saw the Switzer Bridge [top photo], which was later swept away in a flood. There is an effort under way to rebuild the bridge, and we hope it is successful. We also saw the Hillsboro bridge in Fleming County; the high-water mark was 5½ feet above the road level [bottom photo]—it was the neatest piece of handiwork we saw on any of the bridges.

Fred Hagan, *Bardstown, Ky.*

My husband and I were thrilled to see my uncle Arnold featured in the article about covered bridges. I think it is important to recognize the craft my grandfather Milton mastered. I was, however, disappointed that my brother, Stanley Graton II, was not mentioned in the story. Stanley also spent that entire winter working on that bridge in Georgia. There was a picture of him on page 115 but not his name. He has become somewhat of a master himself, having restored a number of bridges on his own, the latest one in Winchester, New Hampshire.

Kristin Graton Fields, *Ashland, N.H.*

Tainted With Paint?
The painter on your June foldout cover should have removed the antique lock plate before he smeared paint all over it.

John Gutekunst, *Jackson, Mich.*

The photograph is deceiving. John Dee did remove the lock plate before painting the front of the door. The glint of metal you see is coming from the back of the plate on the door's other side.

Strong Attachment
"Building a Safe Deck" [July/August 1998] arrived the same day as the lumber for our new deck. A few last-minute changes made our deck as safe as possible. It is now firmly affixed to the ground, with ample footings and strong anchor bolts. My dad's suggestion: "Next tornado warning, don't head for the basement: Crawl under the deck!"

Lori and Mickey Lang, *Cooksville, Ill.*

Tribute
This Old House has inspired me, taught me and instilled in me a continuing love of and obsession with old houses. I never imagined my first message to *T.O.H.* would be on a sad note ["Remembering Ken Cowan," June 1998]. Even though I never met him, the loss of Ken Cowan is like the loss of a friend. Thank you for dedicating page 12 to his life.

Dave Lisiecki, *Tacoma, Wash.*

Neigh
Perhaps production designer Jon Hutman unsuccessfully "scouted 100 locations in Montana" searching for a site to film *The Horse Whisperer* because his vision of the location did not match the architectural realities of Montana. Upon seeing the picture of the main ranch house ["The Lived-In Look," Extras, May 1998], I thought of a setting in the Midwest. I simply cannot imagine such a house in the ranching country of Montana.

Robert Earl, *Studio City, Calif.*

Treated Right
Very good article on pressure-treated lumber ["Arsenic and Old Wood," March/April 1998]. I cart a fair amount of it from lumberyards. I knew it was treated with some sort of arsenic composition; however, I had no idea it could leach out. I also did not know about the ash from burned pressure-treated wood. Kudos to Home Depot for at least checking it out.

Bill Shannon, *via E-mail*

punch list

definition: a list of items incorrectly done or remaining to be finished on a construction job

June 1998
- The correct phone number for Gilligan's Flags and Poles, mentioned in "Rally 'Round the Flag, Boys," is 805-544-4328.

July/August 1998
- The redwood fence in "Rare Wood" was designed and built by Mr. Deck; 408-686-1123; www.mrdeck.com.
- The consultant for the San Francisco project house's lighting design, described in "Amazing Grace," was Sean O'Connor, O'Connor Associates, Columbus, Ohio; 614-444-3432.
- Omitted names of photographers for "Building a Safe Deck" were Julie Line (page 104); Bradley Pines, *Kalamazoo Gazette* (page 105); Michael Grimm (page 106) and Keller & Keller (page 107).

Sometimes it's hard to put a label on what defines true craftsmanship.

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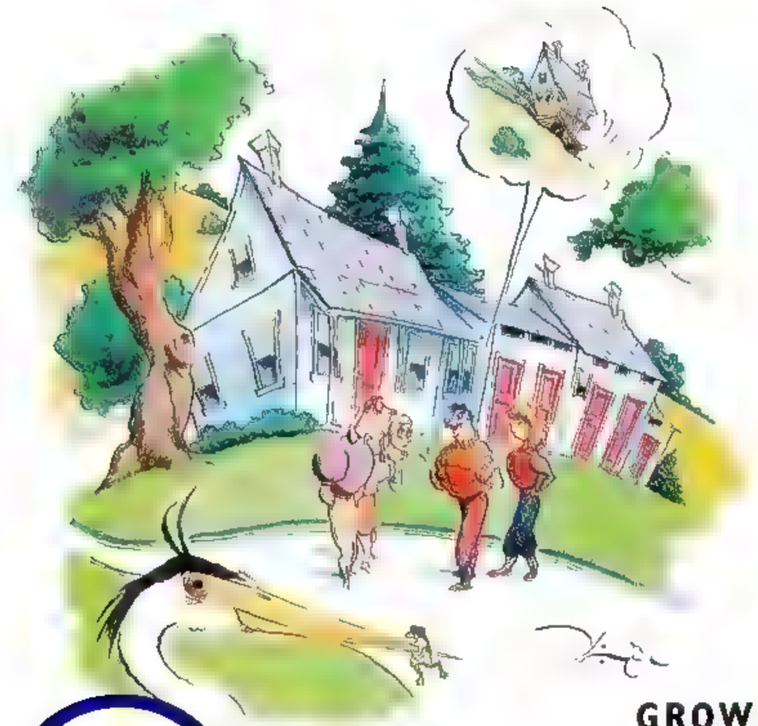
OFF THE WALL

BY JEANNE MARIE LASKAS



GROWING PAINS

All you want is a front door.
Next thing you know, you're building the Taj Mahal

Our house, a century-old farmhouse, has been added onto a lot over the years. Most of the adders-on simply went west, sticking on room after room, edging their way toward the sunset. My husband, Alex, and I have been trying to make sense of the place since we moved here about a year ago. Today is our official day of surrender. "Let's get an architect," I say. "It's our last hope."

He agrees. We simply want to endow our house with the basics. For instance, a front door. We don't have one. We have six—six doors, none of which stands out as more important than the other, running the length of our house. This situation confuses delivery guys not to mention our dogs, who have no idea where to throw their barking tantrums when the delivery guys knock.

So we contact architects Joe and Emily, who show up on a Sunday, wearing rugged outdoor clothing as city people do when they go for a day in the country. They stand in the driveway and look at our house, right to left, then back again as if watching a slow tennis match. "It needs a vision," I say, doing

ILLUSTRATION BY MICHAEL WITTE

my best to sound architectural

"It needs a front door," Alex says.

We pick door number three to go inside on a tour. "This is the master bedroom," I say. "We were thinking we'd like to put a walk-in closet in here someday."

"No problem," Emily says, knocking on a wall. "What's behind here?"

"That would be the kitchen," Alex says.

"Oh, we could move that," Joe says.

"Move the kitchen?" Alex says.

"No problem," Joe says. "But I'd like to check out the plumbing situation."

We go to the basement, snoop around. "Oh," Joe says, "no problem at all. We could turn the dining room into the kitchen—add a breakfast nook off it."

"And if we move your office from the side of the house to the upstairs," Emily says, "just bang out some dormers in that attic, you'd have space for a bigger family room."

"I'm confused," Alex says. "Where would the front door go?"

Emily says maybe we're getting ahead of ourselves. So we all go upstairs to have a little chat. I make coffee. We sit around the kitchen—which could easily be turned into a spare bedroom, Joe points out—and answer questions. Emily asks us to imagine our lives in five years. "Will there be the pitter-patter of little feet?"

"Huh?" I say. "You mean puppies?"

"Babies," she says. "Human babies."

I look at her. I wasn't prepared to do family planning today.

Joe asks us to imagine our lives in 10 years, 20 years. "Any chance of elderly relatives moving in? Do you need a first-floor suite? A place perhaps you both could move into when you get old?" I look at Alex. He is pale. He's not in the mood to imagine our toothless days of wrinkles and bad knees.

These architects, I am beginning to think, don't live in the same world we live in. They come from that same scary place populated by life-insurance people and retirement planners—Big Picture people, trained to look at tomorrow's needs today on behalf of us Little Picture people, who would rather not.

Joe says they're just trying to get a sense of our lifestyle so they can help us conceive our home in its perfect incarnation. "Imagine you're having a party," he says. "What's it like? What kind of food are you serving? What are people wearing?"

I describe the party as cozy. I'm serving homemade vegetable soup with big, crusty bread. People are wearing flannel.

"A party?" Alex says. "I imagine a doorbell. *Dingdong*. I go to the door, let people in. It is a fine, fine front door." He stands up, walks toward the porch. He gets down to business. "Could this be a front-door area here? Maybe we could turn the front porch into a center hall?"

"No problem," Joe says. "Of course, that would mean redoing the front yard."

"Where our septic tank is," Alex says.

"Right," he says. "We could move that."

"Move the septic system?" Alex says.

"Um," Joe says. "Why don't we go look at drainage possibilities before we make any decisions." We pick door number five and step outside. Joe and Emily want to see how our house relates to the fields, the woods, the pond, the barn. I say that I love where our house sits. I love being able to run out to the barn and visit the horses. I love looking out my office window and seeing the pond with the big blue heron that appears—from where I sit—to be stabbing frogs with its sharp beak. I love the way the trees hang over this place and hold us in their watch.

"Uh huh," says Emily distractedly. She and Joe seem drawn by some higher power to walk up the hill just beyond our house. We hike along the creek, throw sticks for the dogs, turn up toward the hill and look down on the valley that is our home.

"Oh!" Emily says. "Oh, yes!" Joe says. "But just the left wing." He and Emily seem to be simultaneously receiving information from someplace Alex and I can't see.

"We could put it on wheels," Emily says. "But could we get water up here?"

"No problem," Joe says.

"Hello?" I say.

They turn and explain that they have figured out how to redesign our house: bring the westernmost wing to the top of the hill as a starting point for a new house.

"Carry it up the hill?" Alex asks.

"On wheels," Joe says.

"But what about the barn?" I say. "And the pond and the stabbed frogs!" I start missing my old problematic house. What, after all, is the matter with living in a large, amorphous space?

"I just wanted a front door," Alex says.

"The barn," Joe says. "Let's think."

"Not on wheels," Emily says.

"No, we'd definitely have to take it apart to get it up here," Joe says.

No problem. ■

This cabinet assembles easily and the shelves are adjustable. Which makes it ideal for storing equipment for weeks or seasons. Or garage sales. Ideas that last™ Rubbermaid®

s/o (extras)

Windows on the Wood

o guys ike *This Old House* master carpenter Norm Abram, a circular saw is convenience on a cord. To the average home owner, however, it's a howling beast straining on a leash But a new, compact circular saw with easy-grip handles and a 6½-inch blade, as opposed to the standard 7¼ inches, seems tailored for anxious remodelers The most reassuring feature is a sight line window that shows what—and where—the blade is cutting The window is glass, as opposed to plastic, to improve clarity, resist scratches and minimize any dust-catching static electricity Although saw dust may obliterate the view during a wood-ripping marathon, the hinged window flips open for easy clearing with a finger swipe. A bigger issue may be severed nailheads and thrown carbide teeth, which could crack the glass, so the engineers have bonded a clear polyester shield to the window's outer surface to stop flying glass fragments

Bunga-Loaded

For many people, "bungalow" connotes a cozy Arts and Crafts cottage with a front porch and low-pitched gabled roof—the picture of respectability. But in studies of prospective home buyers, New Jersey real-estate consultant Jim Constantine showed pictures of old and new bungalows to focus groups and found that in some cases entire groups reacted with horror. In the Midwest, suburbanites associated bungalows with depressed neighborhoods of dinky houses. Southerners tended to disdain the compact houses, which reminded them of shotgun shacks (so called because shot fired through the front doorway could whiz straight through and out the back door unimpeded). One explanation for the negativity: Affordable mail-order bungalows, which sprang up across the United States between 1910 and 1930, were clustered in the sections of towns considered "old" once tract houses boomed following World War II. In recent years an Arts and Crafts revival and rising land values have made bungalows status symbols in places such as Los Angeles and Seattle. Still, says Constantine, "What's considered a charming bungalow in Seattle may raise eyebrows in Palm Beach."

> "If you must put me in a box, make sure it's a big box with lots of windows and a door to walk through and a nice high chimney."
>
> Singer-songwriter Dan Bern, "Jewelstone"

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PHOTOS: SAW, MICHAEL GRIMM. BUNGALOW, FPG/CHRISTIAN MICHAELS. CHIMNEY CAPS: KYLE HOOD

Toppers

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The owners of this house in Charlotte, North Carolina, positioned one of their clay chimney pots so the dragon—mythical guardian of treasure—seems to glower at visitors wending their way up a garden path.

(extras)

WEB

Tour historical and unusual dwellings around the world, house by house and room by room

www.NewportMansions.org
The mansions of Newport, Rhode Island, constitute an opulent museum of the Gilded Age. The 11 stops on this virtual tour include colorful narratives and intriguing images of Cornelius Vanderbilt II's summer cottage, the Breakers, as well as those of other tycoons. But the Web site's few, small pictures hardly do justice to the grandeur of the topiaries at Green Animals or to the Richard Morris Hunt staircase at Marble House.

www.duth.gr/Athos
Click on a map of the Mount Athos area, an inhospitably rugged and isolated peninsula in northeastern Greece that's home to 20 Eastern Orthodox monasteries. The land is off-limits to women, who must view the mysterious Byzantine compounds from a boat on the azure Aegean Sea—or on their deskbound PC.

www.libertynet.org/iha/betsy/faghome.html
After the Liberty Bell and Independence Hall, the top Philadelphia tourist draw is the house at 239 Arch Street, where seamstress-upholsterer Betsy Ross is said to have lodged. This Web site takes visitors through the kitchen, bedrooms, courtyard, workshop and parlor—where she supposedly sewed her famous Stars and Stripes. Even Norm Abram might envy Ross's set of fine upholstery tools.

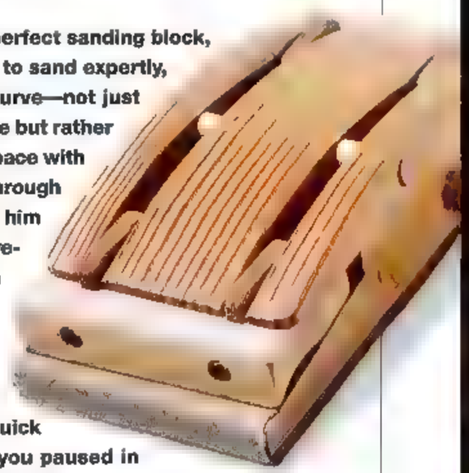
More than 2,000 large color photographs of textiles, finishes and materials cover the pages of The Style Sourcebook, *top.* Caring for Your Historic House, *right, contains a foreword by Hillary Rodham Clinton.*

Getting to the Source

All 22 contributors to *Caring for Your Historic House* sound an overarching theme: Maintenance now, not restoration later, is the key to preserving old buildings. To that end, the 256-page guide provides detailed information about such tasks as cleaning masonry, changing sash cords and choosing floor finishes. Copublished by the National Park Service—caretaker of 20,000 historic structures—and the nonprofit Heritage Preservation, the book also defines the criteria for designating a house as historic. For starters, it should be at least 50 years old, typical of its period and significant in design, materials, workmanship or setting. ▪ One of the most vexing aspects of maintaining a historic house is finding appropriate interior elements: fabric, wallpaper, paint, tile and flooring. *The Style Sourcebook,* by English author and antiques expert Judith Miller, offers 2,300 samples handily organized by style and historic period, with current suppliers, prices and application suggestions. Miller's selections—from swan-motif fabric, suitable for an Empire interior, to floral-patterned tile, popular in the late Victorian era—guide a remodeler through the maze of design history.

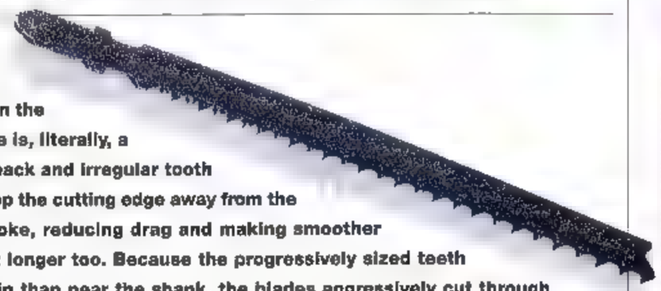
Glad Sander

Oregon cabinetmaker Tony Allport longed for the perfect sanding block, a hand tool he could use in his trade. The tool had to sand expertly, feel silky to the touch and fit the hand's natural curve—not just any old hunk of scrap wood within grabbing distance but rather a piece of craftsmanship worthy of sharing bench space with his best planes and spokeshaves. A futile search through hardware stores and specialty catalogs convinced him that he would have to design the tool himself. The result is more reminiscent of a hovercraft than of a crude homemade knuckle-scraper—and it has infinitely more soul than a factory-made block. Surgical tubing holds together two slender wedges, which clamp sandpaper around a vertical-grain Douglas fir body and ingeniously slide out to allow for quick sandpaper replacement. When was the last time you paused in the middle of a hellish stripping job to admire the curved grace of your sander?



Quick Cut

The cutting action of a power jigsaw blade is only on the upstroke, so the downstroke is, literally, a drag. However, the angled back and irregular tooth design of this new blade keep the cutting edge away from the material on the reverse stroke, reducing drag and making smoother and faster cuts. Blades last longer too. Because the progressively sized teeth are set wider apart at the tip than near the shank, the blades aggressively cut through the plywood core of a countertop yet maintain a clean cut in the thin, brittle laminate surface. There's also a bonus: The hooked first tooth at the tip pulls the blade in on a plunge cut.



PHOTOS: BOOKS: SANDERS: SAW BLADE AND SAPLING: MICHAEL GRIMM; TREE: COURTESY OF AMERICAN FORESTS

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House-Upmanship

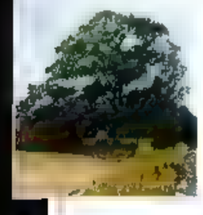
In Westport, Connecticut, home to many flush Wall Streeters—not to mention Martha Stewart—real-estate broker Linda Skolnick recently published a list of local building trends. Although she observes that houses are increasingly family-oriented, some clients were surprised that houses are becoming ever larger and more overdone. (Houses in the Westport area average $450,000.) Here are some of the items on her list.

HOT	NOT
Au pair suites	Finished basements
Whole-house audio	Individual stereos
Dressing rooms	Walk-in closets
Exercise rooms	Spare rooms
Two master bathrooms	Sharing one bath
Silver leaf	Gold leaf
Professional stoves	Electric ranges
Media rooms	Family rooms
Walk-in humidors	Wine cellars
Four-car garages	Three-car garages
Deep tubs for two	Whirlpool baths
Home offices	Studies
Kitchen/family rooms	Rec rooms
Home automation	Separate switches
Natural exteriors	Aluminum siding
Wood floors	Wall-to-wall carpet
Honed stone	Polished marble
Low-voltage wall sconces	Track lighting

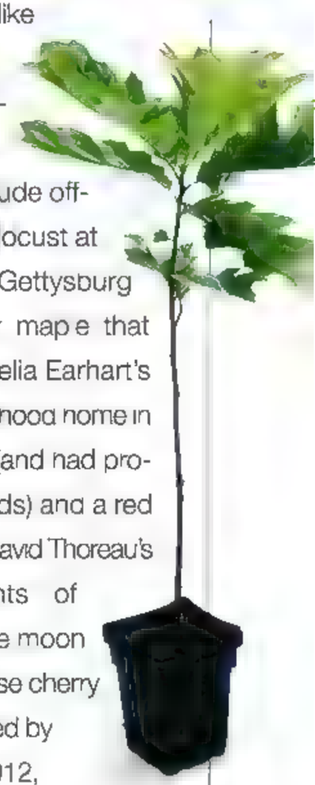
"A blueprint does not predict the cracks that will develop in the future."
—Rem Koolhaas, architect

If These Trees Could Talk

When constructing his house on Forest Avenue in Oak Park, Illinois, Frank Lloyd Wright happened to spare a ginkgo that stood on the property. Today, not only does the tree live on, but its offspring—with their distinctive fan-shaped leaves—can also be found from Savannah to Seattle. That's because since 1990, American Forests, a nonprofit conservation group founded in 1875, has sold 50,000 saplings descended from trees like the ginkgo that "witnessed" significant events and lives. Choices include offspring of a honey locust at the site of the Gettysburg Address; a sugar maple that stood outside Amelia Earhart's window at her childhood home in Atchison, Kansas (and had propeller-shaped seeds) and a red maple from Henry David Thoreau's Walden Woods. Descendants of sycamore seeds that flew to the moon on Apollo XIV and of the Japanese cherry trees of Washington D.C., planted by First Lady Helen Herron Taft in 1912, are the most popular. In all, the organization offers 38 species, and early fall is the optimal time to plant them in most climate zones. Each sapling costs $35, but think what a tree with a story could do for your house's resale value.



"I only regret that I have but one life to lose for my country," Revolutionary War spy Nathan Hale reportedly said before the British hanged him in 1775. This sapling, right, is descended from a northern red oak, above, that shades his boyhood home in Coventry, Connecticut.



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extras

CALENDAR

NORM ABRAM
- September 19—Pedroni Ace Hardware, Southampton Shopping Center, 830 Southampton Road, Benicia, California, 707 746 6887. Norm will sign autographs from 10 a.m. to noon and from 1 to 3 p.m.

STEVE THOMAS
- October 10—Western New York Fall Home and Garden Show, International Agri-Center, 5820 South Park Avenue (Route 62), Hamburg, 800-851-7469.

TOM SILVA
- September 12 Austin Fall House and Garden Show, Austin Convention Center, 500 East Caesar Chavez, Austin, Texas, 800-260-3588, PIN 1000.
- October 17—Philadelphia Fall House and Garden Show, Fort Washington Expo Center, 400 Virginia Drive, Fort Washington, Pennsylvania, 800-260-3588, PIN 1000.

RICHARD TRETHEWEY
- October 10 to 11—New Jersey Fall Home and Energy Expo, New Jersey Convention Center, 97 Sunfield Avenue, Edison, 800-248-7469.

Frankly Speaking

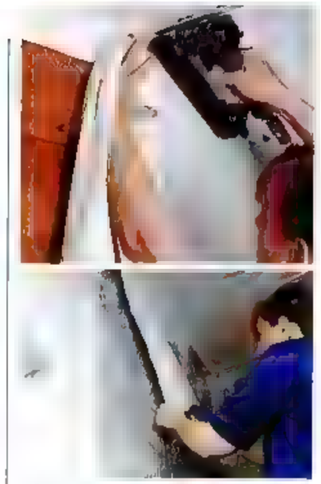
A doting mother, an improvident father, illicit romances and a fiery multiple murder sound like the makings of a TV movie-of-the-week. But they were merely the backdrop to Frank Lloyd Wright's brilliant architectural career—and fodder for *Frank Lloyd Wright*, the latest documentary from director-producer Ken Burns (*The Civil War*, *Baseball*). Airing on PBS on November 10 and 11, the 2½-hour film features interviews with disciples and critics including rival architect Philip Johnson, who admits to having hated Wright and envied his genius. Burns, along with collaborator Lynn Novick, took three years to make the film, culling juicy anecdotes and technical insights from archives, experts and visits to Wright buildings. Burns says he was simultaneously "attracted and somewhat repelled by the story of Wright's life, but you can't understand the work without understanding the man. His buildings were in stark contrast to the juggernaut drama of his personal life."

In 1957, architect Frank Lloyd Wright supervises construction of the Solomon R. Guggenheim Museum in New York. The famous spiral building marked the final triumph of a tumultuous life, which Ken Burns chronicles in a PBS documentary November 10 and 11.

Details, Details

More than 1 million detail sanders have been recalled because they have a tendency to turn themselves on. The recall covers the Ryobi DS1000 (not the DS2000 featured in the November/December 1997 issue of *This Old House*, on page 53). Two Sears Craftsman detail sanders made by Ryobi, models 315.11600 and 315.11639, have also been recalled. If these sanders remain plugged in and the on-off switch isn't fully moved to the off position, pressure from the rubber switch cover can turn them on again. Left unattended, the sanders can generate enough heat to cause a fire. If you own any of these sanders, call Ryobi at 800-867-9824, Monday through Friday between 8 a.m. and 6 p.m. eastern time, to arrange for a free repair or replacement. For more information, visit the United States Consumer Product Safety Commission's Web site at www.cpsc.gov.

PHOTOS: FRANK LLOYD WRIGHT: WILLIAM SHORT/COURTESY OF SOLOMON R. GUGGENHEIM FOUNDATION; CLAMPS, BULB PLANTER AND CHALK BOX: MICHAEL GRIMM; WALLPAPER: MAX KELLINGSWORTH



Glenna Bowman replaces wallpaper destroyed by fire at legendary House Speaker Sam Rayburn's house, now a Texas Historical Commission museum. Bowman tacks muslin to the cypress walls, top, then returns two days later to trim wallpaper for the staircase, below.

Good on Paper

Sam Rayburn spent 48 years in the U.S. House of Representatives, but whenever Congress wasn't in session he used to head back home to Bonham, Texas, a small town 70 miles northeast of Dallas. After the longtime House Speaker died in 1961, the house became a museum, and many of its rooms were remodeled without reference to the past. Then an electrical fire last December gave the museum an opportunity to restore the house to the way it had looked in Rayburn's day. Replacing the wallpaper required research into historically accurate patterns and colors. But getting the replacement paper to adhere smoothly wasn't easy, because the Rayburn house, like many houses in Texas built B.D. (before drywall), has walls composed of wooden planks. "It's like what you might have in a log cabin: rough, to say the least," says Glenna Bowman, who hung the new wallpaper the old fashioned way, over a layer of muslin stapled every 3 or 4 inches to the 8 inch wide boards. Bowman and her crew sprayed the muslin with hot water to shrink the fabric and make it taut. Then they applied sizing, which stops glue from seeping through the fabric. Finished just before the museum's June reopening, the job cost $60,000, a good sight more than the $2,800 that Mr. Sam, as he was known, spent to build the whole place in 1916.

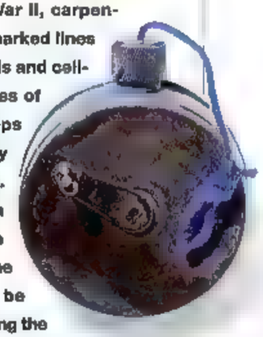
Dirt Drill

Anyone who thinks that planting tulips is humdrum work hasn't tried power bulbing. A landscape auger attached to a cordless drill bores perfect holes up to 6 inches deep and 2½ or 3 inches in diameter, depending on whether tulip or daffodil bulbs are going in. The giant corkscrew also works well for digging stake holes and aerating soil.

Plus, they often cost less than metal, so you can buy as many as the job really requires.

UNSUNG TOOL

Chalk One Up



Until World War II, carpenters usually marked lines on floors, walls and ceilings in a series of tedious steps best made by two people. One person stretched a string along the surface to be marked, keeping the string taut while the other ran a chalk block along the line. To leave a mark, they snapped the line, then rewound the string on a reel. After the war, the chalk box came into its own. The line coiled neatly inside a round metal case filled with powdered chalk. One person working alone could chalk a line by attaching the end of the string to a nail, running the line out and snapping it to make a chalk print amid a little poof of dust. The turn of a small crank then reeled the string back into the box. By the 1960s, most chalk boxes were pyriform in shape, allowing them to double as plumb bobs. Today's boxes, known as chalk-line reels, are aluminum or plastic and contain up to 100 feet of string. And the chalk goes beyond dutiful red, yellow and blue to include neon orange and lime.

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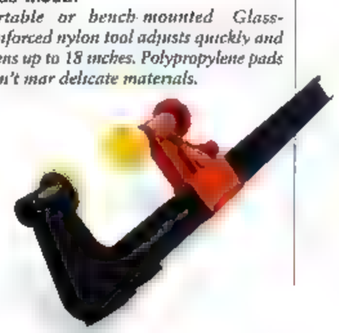
Gripper
Hard pads rotate to expose smooth or serrated surfaces. The cantilevered design minimizes deflection and eliminates twisting.

Toggle
Bench-mounted. Stands 5¾ inches high and weighs 4 ounces. Arm opens 100 degrees for loading and holds down objects with 200 pounds of pressure.

Wide-Mouth
Portable or bench mounted. Glass-reinforced nylon tool adjusts quickly and opens up to 18 inches. Polypropylene pads won't mar delicate materials.



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TOOL TALES

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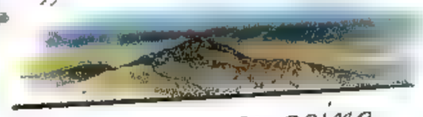
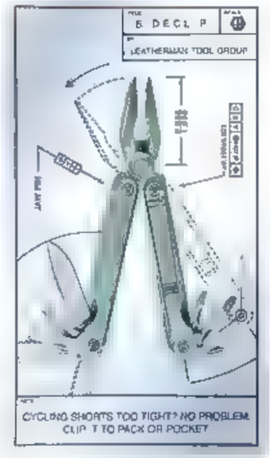


There I was, crossing Siberia's remote Kilimski track. Several spokes on my mountain bike's wheel broke. I wondered what would happen when ravenous Siberian tigers (not to mention mosquitoes) found out I was stranded. Fortunately I had a Leatherman Tool clipped to my pack. Using its powerful jaws I was able to combine two bicycle spokes into one. My journey continued, cheered on by the occasional babushka.

Dave Scherer
South Fork, Colorado



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BY CURTIS RIST

SMOOTH OPERATOR

A power plane can make every door in your house fit again

Planer Parts

1. **DEPTH-OF-CUT KNOB:** *Twists to set cutting depth from 1/64 to 1/8 inch.*
2. **FRONT SHOE:** *Adjusts up and down to control the depth of cut. The grooves steady the tool when cutting chamfers.*
3. **REAR SHOE:** *Limits depth of cut. Longer rear shoes are easier to hold steady.*
4. **CHIP DISCHARGE CHUTE:** *Removes the debris sliced off by the blades.*
5. **MOTOR:** *Ranges from 4 to 6 amps; higher amps provide more power for heavy-duty full-time use. Single speeds are the rule.*
6. **CUTTER GUARD:** *Swings aside so the tool can cut grooves up to 1/2 inch deep or clean out the corners of rabbets.*
7. **HEEL:** *Flips down automatically to protect the blades between uses.*
8. **CUTTING CYLINDER:** *Holds two self-aligning carbide blades. Spins between 12,000 and 19,000 rpm, depending on make. Blades should be replaced every 5 hours.*

My grandfather was a carpenter and, although I inherited none of his talent, I did end up with a box of his hand planes after he died. I stowed them in the basement and forgot about them until recently, when I filled the house with new rugs and all of the doors began scuffing. Retrieving the planes, I set to work, filled with visions of thin curls of wood peeling off door bottoms. But after a half hour of fiddling, all I had to show for my efforts were one irregular splinter and a nasty cut on one of my fingers. I ran to the hardware store for help. "You've heard of electricity, right?" the clerk asked. "Well, it's time you use it." So, home I went with a power plane.

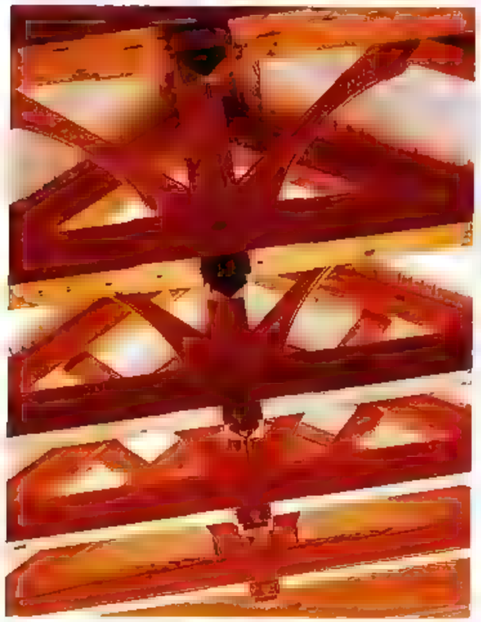
Electric planes make smoothing wood easy. Where hand planes have a

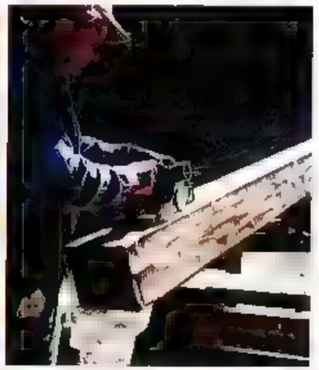
PHOTOGRAPHS BY MICHAEL GRIMM

POWER TOOL

NOT THE USUAL CUTS

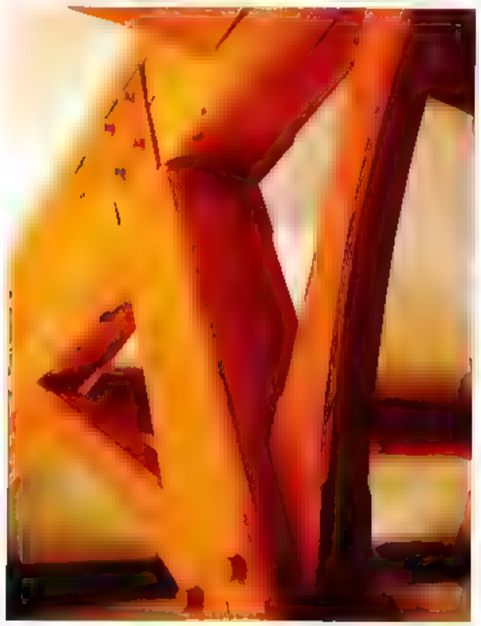
Hand Hewer





Will Beemer, above, uses a German power plane fitted with a curved blade to produce a convincing rough-hewn look. With the same tool, Anthony Zaya of Lancaster County Timber Frames power-planed an antique look onto the trusses of a new house in Westchester County, New York, right. "It would have taken 10 guys a whole week to do them by hand," says Zaya. "We were done with each set in about three hours."

Curve Hugger



A flexible sheet-metal shoe allows a Spanish-made plane to smooth curves as well as flats. Beemer, above, tunes a concave cut that matches the braces in his own house in Washington, Massachusetts, right. For concave curves, the plane's minimum radius is 17¾ inches. It can follow convex cuts with a radius as tight as 15¾ inches. "It's definitely smoother and faster than what you could do with a curved hand plane," says Beemer.

puzzle of levers and knobs to control the blade, a power plane has a calibrated knob to set blade depth. While hand planes rely on skilled arm power to flatten a surface, a power plane removes wood with a pair of blades (also called knives) spinning about 15,000 revolutions per minute; you just hold the tool steady as you slide it along the wood. And the blades on a hand plane need exacting sharpening—a demanding task in its own right—otherwise they will rip up wood rather than slice it. When power-plane blades get dull, you simply take them out and drop in replacements. "A lot of carpenters forgot how to use hand planes," says Will Beemer, a timber framer and owner of Heartwood, a building school in Washington, Massachusetts. "Power planes have given them back the ability to plane."

The earliest power planes, introduced in the late 1970s, could do little more than help unstick old doors; their motors hung below the shoe on one side, making them useless for planing anything but a narrow edge. When the motors migrated above the shoe shortly thereafter, planes were free to flatten wide expanses of wood.

The models that smooth swaths 3¼ inches wide are the most popular. Carpenters use them to level crowned joists so that flooring will lie flat and to shave bowed studs so drywall will hang plumb. Makers of solid-surface countertops use them to remove hardened glue squeezed out of seams. Timber framers rely on much larger versions—from 6 inches to a full foot in width—to fine tune joints in giant beams or to put a fresh surface on salvaged wood. One model has a flexible shoe that allows stair builders, boatbuilders and even surfboard makers to follow concave or convex curves. And cabinetmakers who want to trim an applied edge perfectly flush have the flipper-planer, which has a cutting arm that adjusts to make bevels.

Compared to a belt sander, another tool for smoothing and removing wood, a power plane is faster and more precise. "If you hold a belt sander in place, it just keeps getting deeper and deeper," says Beemer. "Before you know it, you've sanded yourself into a hole." That can't happen with a power plane. Once the cutting depth is set—by adjusting the height of the front shoe—the fixed rear shoe prevents the blades from digging any farther into the wood.

Power planes help surfboard makers like Mike Morin of Sanford, Maine, carve blocks of polyurethane foam into board cores. "Without a plane, I'd be here rasping these things forever," he says. To keep the cord from being chewed up, Morin hooks it over his forearm.

Sanders also make wood rough, clogging pores with dust and leaving a less than pristine surface. A planer slices off wood cleanly, leaving it smooth. "Especially for gluing, when you need two perfectly matched pieces of wood for as tight a joint as possible, you want to plane the surface rather than sand it," says Tom Silva, the general contractor for *This Old House*.

Tom does everything he can to keep his blades sharp. Before he planes, he scrapes off paint or finish, brushes away dirt or grit and removes any nails in the planer's path. "Nothing will ruin a blade faster than hitting a nail," he says. And when he's finished, he sets the tool on its side rather than upright, so the blade doesn't touch the floor. He is also careful not to drop a plane. "That will knock it out of alignment, and then the cut will never be true."

Even the most pampered blades will get dull after about five hours of use; a laboring motor is the signal that it's time for replacements. Until 15 years ago, blades were steel and meant to be resharpened, but removing and realigning each razor-sharp piece of metal was dangerous and difficult. Now, on most models, the blades are double-edged carbide and need no alignment. Just unscrew the old ones and drop in the new, which cost about $10 a pair. Aside from blade changing, a power plane needs minimal maintenance. Every 100 hours or so, the motor's brushes and the belt that drives the cutting cylinder will probably need to be replaced.

As easy as they are to use—just steady the front shoe on the work, pull the trigger, and go—power planes aren't foolproof. "The biggest mistake is to try to go too fast," says Tom Silva. Pushing a plane too quickly will leave an uneven washboardlike surface. Cutting too deeply into hard or

No-Lip Service

A power plane leaves a clean swath of smooth wood in its wake, but if the wood is wider than the blades, it will also leave a tiny lip on either side of its whirling cylinder. Timber framer Will Beemer (below) can take that same plane and erase these ridges over a surface of any width.

First, he makes a straight cut along the edge of the wood. On the second pass, he skews the plane about 45 degrees to one side and slides it over the lip so that the front shoe rests on the cut surface, and the rear shoe rides off the cut. Contrary to the usual practice, he pushes down on the front shoe so that the tool rocks forward slightly.

On the third pass, he skews the plane 45 degrees the other direction, rocks it forward and shaves away what remains of the lip. As he moves across the wood with overlapping passes, he skews the tool alternately left then right until there are no more lips to swipe off.

Starting each skewed pass is tricky because skewing invites the tool to dig deep gouges in the wood. He prevents gouging by lifting the rear shoe slightly, lowering it only when it is over the wood. "This takes some practice," Beemer says.

PHOTO TOP LEFT: JIM DANIELS

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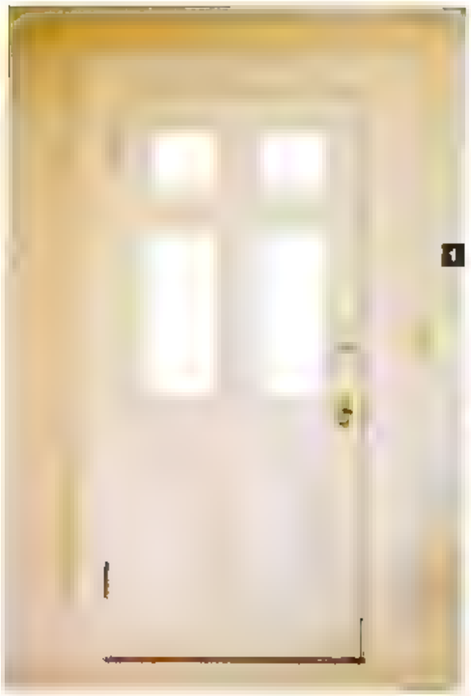
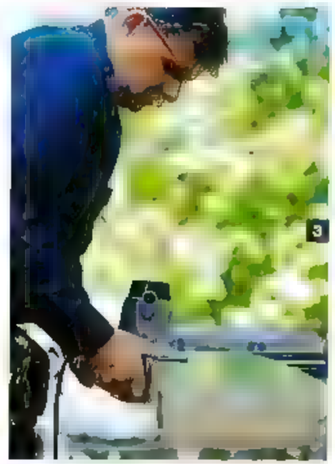
TOM TRIMS A DOOR





1. *By far the most common use for a power plane is to trim door bottoms that are rough, like this one, or scuffing. But using a plane this way is trickier than it might seem, because the blades tend to fracture the end-grain wood (the door stiles) as the tool moves off the door.* **2.** *One way to prevent splintering is to plane from the ends toward the middle. Tom Silva's solution is to tack or clamp a piece of scrap wood to the door's edge. "When you reach the end of the wood with the plane, you're splitting the scrap instead of the door," he says.* **3.** *Tom's door-trimming power plane, one of the first on the market, has a right angle shoe that makes the tool easy to steady as he slides it. "With any plane, you have to press down firmly," Tom says. "Otherwise, the nose will lift up, and you'll have an uneven cut."*

knotty wood will strain the motor, tear up wood and rip out loose knots. Likewise, when a plane's front shoe slides off into thin air at the end of a cut, it's apt to dive and leave a telltale dip or snipe in the wood. Longer planes reduce the chance of snipe, but going slowly and holding the plane's rear shoe firmly against the work will help to minimize this problem, even on stubby models. "If possible, start with a longer piece of wood, then trim it down after planing," says Beemer.

Another mistake: underestimating the storm of sawdust and wood chips power planes unleash. That's why Tom Silva works outside with his planes whenever possible. To rein in the deluge, some models come with vacuum hookups.

After plugging in the power plane I rented from the hardware store, I practiced my technique on scrap wood. The tool was a little noisy and intimidating but, after a few swipes, I got the knack. I carried the doors outside, lined them up on sawhorses and guided the plane along the bottom of one after another, sending a satisfying spray of wood confetti into the air.

Those doors don't scuff the rugs anymore, and I like to think that my grandfather would be proud—even though I've relegated his heap of hand planes back to the basement. ●

Plane Truths

With two blades zipping around at 250 times per second, a power plane can instantly mutilate electrical cords, wood and fingers. Follow these steps for smooth and safe operation:

- **WEAR EARMUFFS OR PLUGS:** *Some planes generate more than 100 decibels, the equivalent of a gas-powered lawn mower, within a few feet of your eardrums.*
- **INSPECT THE WOOD FIRST:** *A protruding nail can wreck a blade in an instant, as can ordinary dirt or any kind of paint or varnish. Be certain the surface is clean and nail-free before you begin.*
- **SET SHALLOW CUTTING DEPTHS:** *Cutting too deeply can bog down the engine, burn out the brushes prematurely and rip—not smooth—wood. For best results, make the last pass as shallow as possible.*
- **PLANE IN THE DIRECTION OF THE GRAIN:** *Planing across the grain or with the tool skewed can rough up a surface. (For exception to this rule, see "No-Lip Service," page 33.)*
- **LIFT UP WHEN PULLING BACK:** *Pulling a running plane back over the wood will leave ripples, or worse. Once, Tom Silva had a plane ripped out of his hands when he did this.*
- **SPARE THE CORD:** *When pulling the plane back for the next pass, it's easy for the blades to catch on the cord. Looping it over your shoulders and behind your neck will keep it out of harm's way.*
- **PROTECT THE BLADE:** *When a plane is not being used, lay it on its side or rest the rear shoe on a small piece of wood. Some power planes have a gravity-operated heel that swings down to protect the blade.*

MANUFACTURERS • MATERIALS • PRODUCTS RESOURCES – PAGE 148

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PHOTO: KELLER & KELLER

ASK NORM

"Sanding removes an old finish but also erases the patina and the little nicks and dings that give floors character."

CLUSTER FLIES

We've bought a 1780 Vermont farmhouse. Along with the wood floors, beautiful staircase and great barn, the house came with cluster flies that drop dead anywhere and everywhere. They flip on their backs, whirl around, drop onto laps and—at Christmas time—into the turkey soup. The locals say, "You have a slate roof, you have cluster flies." But I'm looking for a way to get rid of these unappealing creatures.

PATRICIA JOHNSTON, *Medford Lakes, N.J.*

I have a similar problem with my cedar-shingled roof, and so far I haven't had much luck getting rid of the cluster flies. Slates are often laid directly on skip sheathing or boards with no felt-paper underlay. That leaves a great number of small openings, exactly what the flies are looking for. Donald Lewis, a professor of entomology at Iowa State University, tells me cluster flies enter buildings in the fall to hibernate. "They're hard to kill, because they lodge in cracks and crevices that pesticide sprays and fogs rarely penetrate," he says. "But they're doomed nevertheless. Central heating brings them out of hibernation prematurely and, when the house cools down, they die sooner—betrayed by the very shelter they sought. If you don't use central heating, they'll come out of hibernation in spring and fly off more or less unnoticed." As for me, I'm going to try to keep the flies isolated in my unheated attic. I'm going to seal every opening I can find between the attic and the living spaces, including light fixtures and electrical outlets. That way, the flies will have to leave the attic the same way they got in.

DOOR MYSTERY

The door of our master bath sticks at the top but opens and closes freely when we have rain. This usually happens in spring or fall. Wallboard above the door is split on both sides of the frame. I marked the farthest point of the split five or six years ago, and it hasn't moved past that mark. This is the only door in the house that's affected. I'm baffled. Is the problem in the foundation or within the door framing?

DAVID C. FAGER, *Grandview, Mo.*

I like a fellow who doesn't rush into things. Since you don't seem to be in a big hurry, I suggest that you wait for a sunny day and take a block plane to the door. Give it a few licks, and then wait for a rainy day to see whether it needs a few more. That should keep the door from sticking, but it doesn't explain the mystery. Doors usually stick when it's damp, and yours is doing the opposite. Still, I wouldn't worry about the door frame or the foundation. After you're sure the door swings freely in any weather, fix the wallboard.

SAFE SAWING

I've noticed that, when you use a sliding compound miter saw, you usually push the saw into the work. But with a radial saw, you pull the blade toward you. Isn't the push technique inherently more dangerous?

JAMES W. RANDOLPH, *Long Beach, Miss.*

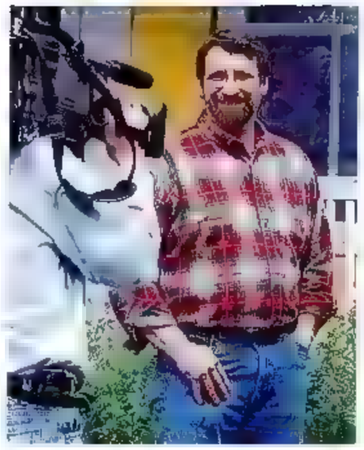
Actually, pushing is safer. With a radial-arm saw, the blade rotates toward you. Sometimes it tries to "walk" right over the workpiece, and a lot of accidents happen because of that. The sliding compound-miter saw lifts up and out of the way, allowing for easy placement of the workpiece and providing a clear view of the work area. It's important to follow the proper routine. Before starting the saw up, pull it to the edge of the workpiece. Let the blade come up to speed, and carefully lower the saw into position. Then push in to cut.

COLOR SCHEME

My house is only seven years old, but I'm already unhappy with some of the colors I chose. I wish my asphalt shingles were blacker and my mortar redder. Can you stain shingles? If so, what kind of stain will work but not bleed onto my white trim? Is there any way to tint mortar? It's natural now, but I'd like it to be rose.

LAURA TUNGETT, *Belvalto, Ill.*

You can get blacker shingles when you get a new roof—and not before. Mortar can be tinted when it's mixed, but I don't know of any way to tint it afterward. Painting it isn't out of



the question but would look awful, be a miserable job to do, and leave you with a maintenance headache.

ASBESTOS INSULATION

Our house was built in 1938. We think the ducts may be insulated with asbestos, and there might be some in the ceiling tiles too. Is there a way to find out?

PATRICK JAMES MALLOY, *Evergreen Park, Ill.*

There's a potential health hazard here, so you shouldn't risk poking around the ducts or ceiling tiles yourself. Ask your city's environmental agency to refer you to testing labs and licensed removal specialists. Asbestos in good condition can often be encapsulated—covered and sealed in place—which is safe and relatively inexpensive. But if the tiles and duct cladding are shedding dust or falling apart, removal may be necessary but tricky because of the risk of disturbing the material and putting a lot of asbestos particles into the air.

WEEPING CHIMNEY

About eight months ago, my fiancée and I bought a house that was once heated with coal but now has a high-efficiency gas furnace that vents—like the hot-water heater—through the original, unlined chimney. As a result, a lot of condensation is leaking into the house. Three chimney specialists have recommended lining the chimney. One wants to install a stainless-steel flue and insulate the gaps between it and the chimney wall. The second contractor proposes installing a stainless-steel flue without insulation. The third suggests a spiral-weld flexible liner that is very expensive, and the other two contractors warn us against it. What do you suggest?

ANTHONY CUSCHIERI, *Westwood, N.J.*

High-efficiency gas furnaces generate a lot of exhaust moisture as a by-product of combustion, but because the exhaust isn't hot, I see no need for insulation. As for a liner, yes, you need one. Spiral-weld liners are expensive, but they're the easiest to install. We've used them several times on the show.

LEAKY SHOWER

Paint on the wall along the back of my bathtub is bubbling and cracking. The trouble starts at the baseboard, which has separated from the drywall. The grout and ceramic tiles of the shower wall aren't leaking, but water seems to be getting behind the baseboard and under the quarter-round floor molding. There's also a lot of mildew. Would replacing the shower curtain with shower doors help?

BRENT J. BARTHOLOMEW, *Kokomo, Ind.*

Shower doors will indeed help, because it seems a lot of water is getting past the curtain. You'll still have to repair the damage already done. Whatever lies behind your baseboard and beneath your molding might keep you busy for some time.

MAHOGANY MIRROR

I bought an antique mirror with a wooden frame that I think is mahogany. The frame is about 2 inches wide and has some carving at the top, but the wood looks dull. How can I bring it to a nice, glossy finish?

FELICE MIKELBERG, *Redbank, N.J.*

A kind of mahogany called "plum pudding" often looks dull, it has a rich red color but doesn't show much grain. Even if you have fine, furniture-grade Honduran mahogany, there's a good chance the finish is simply dirty and will clean up nicely if scrubbed with mineral spirits, an old-fashioned product that may take some searching out. It's a petroleum by-product, so check the label for safety precautions. Mineral spirits is a favorite with furniture pros, who usually try cleaning first if the finish isn't actually damaged. When it comes to cleaning the carving, you'll quickly discover why you should never throw away old toothbrushes.

TROUBLESOME SIDING

Our 1965 house and detached garage both have sections covered with cedar siding. Almost from the start, we've had trouble keeping paint on the garage, but we've never had trouble with the house. I plan to replace the garage cedar with steel siding, which I can get in the small quantity required. The manufacturer says cutting with a saw voids the warranty because the heat generated by sawing damages the paint, and the ragged cuts encourage rust. But a professional shear and dies cost $500. Even a rental—from a place 120 miles away—will cost $25 a day. I've heard of a new saw blade that's said to produce virtually zero heat. What do you advise?

DON E. SCHAEFFERBERGER, *Columbus, Neb.*

Does your garage have heat and little or no insulation? If so, keeping the garage unheated or adding insulation could save you a lot of work. When moist heated air gets past inadequate insulation to the inside of the siding, it condenses and "wicks through" to destroy paintwork. That may be why the siding on your garage is peeling. If you do replace your cedar, the high tool costs should make you reconsider using steel. Getting a small amount of aluminum siding shouldn't be hard. Forget the zero-heat saw blade. Such claims mean nothing unless the siding manufacturer accepts them.

CONCRETE SOLUTIONS

I've got two projects. First, I'm refinishing our basement. What's the best way to attach drywall and paneling to a concrete-block wall? Second, because my wife saw the driveway pavers poster in your March/April 1998 issue, I'll be doing a

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PEACE OF MIND

PHOTO: KELLER & KELLER

patio this summer. Can I lay the pavers on top of my existing concrete patio?

LEE BOUSE, *Elkhart, Ind.*

You can fasten furring strips of 1x2 treated lumber to the block walls of your basement, using special screws available in kits (drill bit included) at home centers. You might want to put rigid insulation between the strips—even just a little bit will help in Indiana—then add a vapor barrier and drywall on top of that. A better way, if you can spare the space, is to build a stud wall and use batt insulation. Leave a little air space so nothing touches the wall. Ordinary studs will do, but the sill plate should be made of treated lumber in case of seepage. As for your patio, freezing might be a concern. But if your present slab has good drainage pitch and you lay interlocking pavers on top of the concrete without mortar, you shouldn't have any problems.

MISTAKEN PRIORITIES

I wonder whether I was possessed when I recently purchased a 102 year-old Victorian. I always wanted an old house and fell in love with this one the first time I saw it. But I didn't realize how many problems I'd have to deal with. The breaker box was new but not the wiring, so I had to hire an electrician to redo the entire house. To keep sand out of the house and protect my laboriously refinished floors, I had to have my driveway paved. After a few days of rain, I discovered that the "new" roof was simply new shingles over old ones, with rotten sheathing underneath. Pipes from the added-on upstairs bathroom aren't connected—they simply drain out onto the roof. Not one of our 38 windows closes completely, and some won't budge at all. The walls need insulation, the brick piers that support the house are crumbling and sinking, and the heating system is shot. There's rot hidden beneath the paint, and the kitchen floor slants severely. Any advice?

ANN WEAVER, *Bamberg, S.C.*

I don't know whether you were possessed, but you certainly were distracted when you bought the house, and you've made matters worse by not prioritizing the jobs. It's a very common mistake: New owners often try to make a major rehab tolerable by first fixing up inside to avoid that feeling of living in a construction site. But refinishing floors and paving the driveway could have waited—and should have. That's also true of rewiring. What you need to do now is step back and get organized. Job one is to call in a structural engineer. He may tell you that the piers have sunk about as far as they're going to and that all you need to do is repair the masonry, jack the house up and shim it level. He may also suggest adding one or more piers. This will stabilize your house and may alleviate some other problems. For example, windows may fix themselves once the footing levels out. Your other priority should be to start work on your roof—leaks and rot can't be tolerated. I gather you're new to the area, so you're going to have to put in a lot of time finding a contractor. Talk to your neighbors. Find out what work they've had done recently and whether they were satisfied, and don't just take their word for it—inspect the results yourself if you can. Materials suppliers also know who does good work.

FLOOR SANDING

My wife and I are restoring a circa 1870s Victorian house in upstate New York. Our floors are random-width tongue-and-groove knotty pine, 15/16 inch thick, laid on true 2 by 9-inch joists on 16-inch centers. We want to refinish the pine as finish flooring, but we're worried that sanding will leave us with too little thickness. There is no subflooring at all.

ROBERT WEBER, *Hancock, N.Y.*

You should never sand a floor to less than a ¾-inch thickness if there is no subfloor. Unless you want the look of a brand-new floor, however, think twice before sanding. Sanding removes an old finish but also erases the patina and the little nicks and dings that give floors character. At the T.O.H project house in Milton, Massachusetts, we retained the visible history of the wide-plank pine floors by giving them a light screening instead of a sanding. Screening is done with a machine like a floor polisher and a coarse pad something like a green synthetic pot-scrubber. It removes dirt and wax buildup but doesn't remove wood or even all the finish. Instead, it roughens the surface just enough to give it the tooth to hold a new coat of finish.

DOG-PROOF FINISH

I have a dog and don't want any smells to soak into my pine and oak floors. Should I apply a polyurethane finish?

MELISSA ABERNATHY, *Hoboken, N.J.*

First things first: Housebreak your dog! I've had personal experience here. If you want to know what will strip polyurethane, dog urine is it. And a wood floor is a series of cracks, so the urine will seep down into them and do even more damage. You may be able to avoid refinishing if you wipe up puddles quickly and clean the floor often.

PHOTO: KELLER & KELLER

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MANUFACTURERS · MATERIALS · PRODUCTS · RESOURCES – PAGE 143

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BY JEFF TAYLOR

GUN CONTROL

Warm up the caulk before you pull the trigger

The smooth rod on this 1⅝-pound English-made gun moves almost silently and at any increment, unlike clicking ratchet-rod guns. A patented antiwear device prevents loose-trigger syndrome, the bane of smooth-rod guns. The painted, hand-friendly shapes of the trigger and handle are made of a cast zinc alloy.

e was an old Down East carpenter pulled out of retirement to do one more job. His name was Clyde, but everyone called him Slick because of his extraordinary virtuosity with a caulking gun. When he caulked a window, other carpenters would stop whatever they were doing to watch. Including me.

Of all the construction tools ever invented, the ratchet rod caulking gun is the most difficult to control. Squeezing the trigger advances the piston, one click per notch, causing sealant to pump forth in increments; human operators must move the tip in perfect synchronicity with each gush. We tried, but none of us could duplicate Clyde's smooth, slightly rounded bead without a "squirrel-ribby" row of ridges or other hesitation marks. Our beads looked more like knotted clothesline than like Clyde's taut white cord. The simple trick, he said, was to maintain an even pressure against the joint, keeping the tip in motion as long as sealant was oozing out. We already knew that, of course. The truth was, Clyde's magnificent ability was partly a gift, but mostly acquired over years of constant practice. No one else could

PHOTOGRAPHS BY KOLIN SMITH

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CHOOSE YOUR WEAPON

A 3½-pound closed-barrel gun can take a cartridge or be hand-loaded with up to 2 pounds of goop. The threaded nozzle allows for interchangeable tips, including one of flexible rubber.

The smooth-rod open-cage gun has two speed settings, one that increases leverage for extruding viscous adhesives and another, faster setting for expelling thinner caulks. A hole in the handle snips tube tips.

Dripless guns pull the plunger back slightly as the trigger is released, immediately halting the pressure behind uncalled-for oozings. A metal poker on the underside of this 30-ounce open-barrel gun punctures tube seals.

For the all-day caulker, a cordless gun is a boon-with-a-barrel. This 3¾-pound variable-speed tool can empty an 11-ounce tube in as little as 45 seconds, up to 10 tubes per charge.

An electric drill propels a threaded plunger on the 2-pound power caulker. It can dispense an 11-ounce tube in 15 seconds. To prevent uncontrollable discharges after the drill trigger is released, the metal hook disengages the plunger.

match his steady hand—a foot of sealant bead every three seconds—or his delicate touch on the trigger: one click, release, one click.

When Clyde finished a joint, he snapped the bead with a gentle downward twist, quickly disengaged the piston rod and covered the tip of the cartridge with his thumb. Even the explosive pop of an air bubble didn't faze him. He backtracked an inch and pulled the bead flat again, plowing right through the blotched ejecta. Then, with a damp rag and a putty knife, he deftly cleaned up the spattered caulk on both sides of the hiccup point. Painters just loved Clyde.

He never wet a finger and ran it down his bead. This trick reeks of apology: "Having messed up the bead of caulk, I hereby make a sorry attempt to smear it uniformly, leaving this thumb-fatted bead for the painter to hide."

Although I lack his gift, I've found that maintaining my own leaky old house has provided an abundance of opportunity to emulate his technique. After sealing miles of seams, I have become a competent maker of beads, though I still have to fight the urge to wipe my finger over them.

The first caulking gun appears to have been invented by a Theodore Witte, a Canadian who patented it in 1894 as a "puttying tool." But it's possible they were first used in bakeries. In fact, some companies that make caulking guns also manufacture cookie machines and frosting applicators; the material is different, but the function is identical. This might explain why my wife, a calligrapher of birthday

PHOTOS: DAVID PRINCE

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cakes, is even better at sealing window frames than I am.

The gun didn't gain widespread acceptance as a device for caulking until the early '60s, when disposable cartridges made their appearance. Before World War II, such things as bathtubs were commonly sealed using a putty knife. And even as late as the mid-'50s, caulking guns were likely to be bulk-loaded—packed by hand into the barrel, a formidably messy job.

Today, the two most common types of toss-away tubes are the 10-ounce, filled with anything from concrete patcher to roof tar; and the big 30 ouncers, which commonly contain some kind of adhesive. I prefer an open-cage gun (the so called skeleton strap) for the small tubes, so I can turn the entire tube to adjust the angle of tip contact. My English made 30-ounce gun employs the heavier open-barrel design, solid as a safe and irresistible as a nutcracker. I load it with tubes of glue and mastic, which by their nature require more thrust to dispense than painter's caulk.

Both guns have hexagonal rods, smooth-rod or hex rod guns respond to delicate pressure on the trigger, allowing more control of the amount of sealant dispensed than the clicking ratchet-rod models do. The best caulking guns have some kind of trigger or thumb lever to release piston pressure at joint's end. Without that, caulk will continue leaking from the tip. A few guns even eliminate that extra device, an automatic flow stop mechanism slightly retracts the piston, halting excretion in mid bead.

Before I gun caulk, I make sure joints are dry and clean (glues don't adhere well to wet surfaces) and keep an eye on the weather (some caulks melt in the rain). I get my best results on sunny, warm days when sealant flows like buttercream, but in my dim, damp corner of the Pacific Rim such days happen too infrequently. My habit, therefore, is always to warm cartridges of sealant the night before and keep them that way until loaded. On the appointed day, I slice off the tip of a tube at a clean 45-degree angle, leaving an aperture of about ⅛ inch. If there's a seal, I puncture it with an awl skinny enough not to widen the hole.

Doing this job is hard enough even with high-quality sealant at room temperature, so it's best to avoid inferior, bargain bin guns. Twenty dollars is not too much to spend on a well-made, thoughtfully engineered caulking gun, thrift means little after you pinch a finger just short of amputation in a flimsy stamped metal trigger. Bargain guns also jam more often and break sooner.

The new electric caulking guns, cordless and otherwise, improve flow control, ease the strain on forearm muscles and are fun to use. But I am happy to report that Clyde's skull remains safe from automation. Making a clean, straight and smooth bead still requires a human sense of craft and, yes, lots of practice. ■

As he caulks a balustrade, Chris Potocak of Hunterdon Builders in Whitehouse, N.J., rotates the gun's cage to keep the cartridge tip in consistent alignment with the joint.

Push me, pull you

Each of the two schools of caulking technique, push and pull, has loud and expert supporters. Clyde pulled, and I pull, partly because the bead is always visible and there's no danger of brushing against it with an elbow. Pushers claim that pulling is like driving while watching the rearview mirror, that they don't need to see where they've been; they also insist that pushing the tip not only forces the bead flat but is also easier because the more natural pushing-motion eliminates minor hesitations caused by arm tremors.

My pullist viewpoint developed from long habit, but I have to admit that sometimes pushing works better—because it can be done with one arm. (Good pulling requires two hands: one on the barrel and one on the trigger.) On long vertical seams, for instance, a good push-gun caulker can start low, climb a ladder and continue caulking—without a pause—well above his head. To pull a good bead that way would be nearly hopeless.

MANUFACTURERS MATERIALS PRODUCTS RESOURCES – PAGE 143

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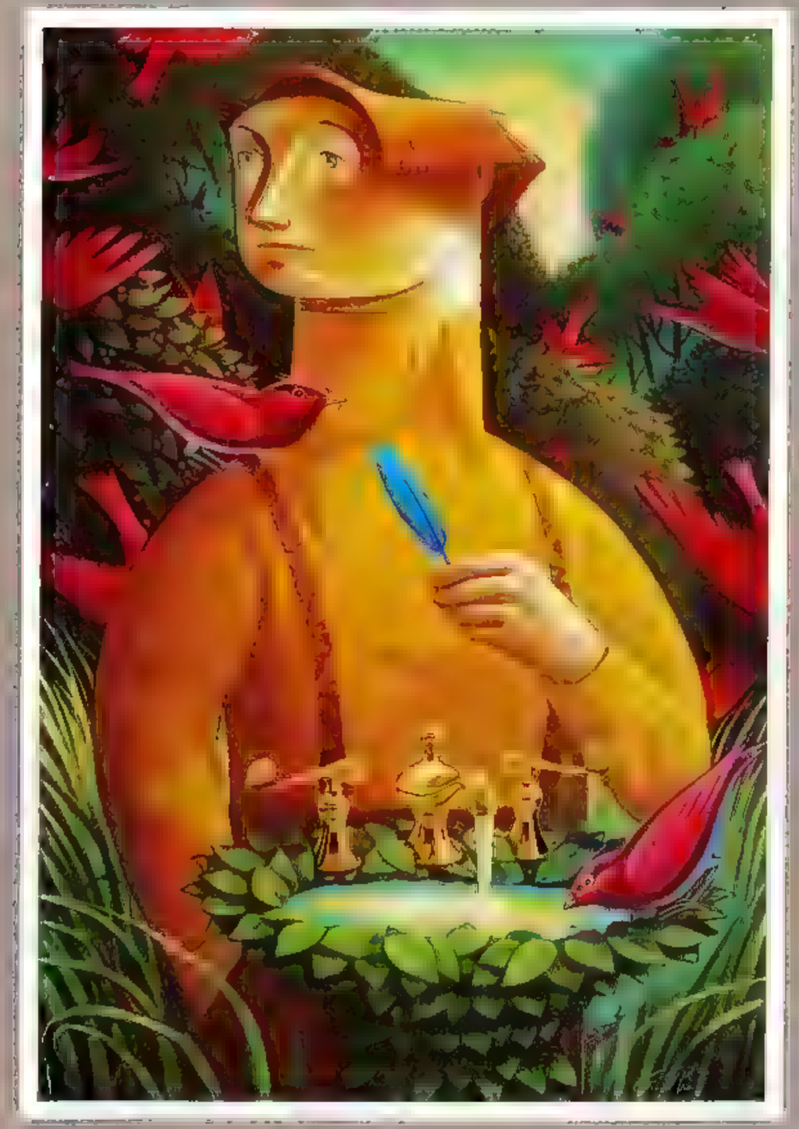

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BY JACK McCLINTOCK

TERRAZZO

How a mere house can become a palace

Elle Ewell had always been a wood-floor person: "I grew up with them." But for her new house in Chapel Hill, North Carolina, her husband, Mickey, a restaurateur, insisted on a material she'd never heard of: terrazzo. "We have it in one of our restaurants," he says. "It was built in 1947, and the floor's like brand-new. Really low-maintenance. The first time I saw it, I thought, 'Man, that'd be great in a house.'"

Terrazzo—chips of marble, glass or other aggregates embedded in tinted cement, ground smooth and polished to a silky sheen—may have been yet another of mankind's accidental discoveries. In the 15th century, mosaic artisans in northern Italy swept waste marble chips out onto their terraces, *terrazzi*, and smoothed the surface simply by walking over it. When workers learned to press the chips into a more permanent clay base, then grind and polish them with heavy stones, terrazzo caught on. Michelangelo used it in St. Peter's Basilica. George Washington strode over it in his cherished Mount Vernon. In the 1950s, Richard Neutra and other modernist architects specified terrazzo in their designs, and by the '60s, it covered floors in developer houses across the Southeast and Southwest. But as installation costs rose, terrazzo once again became a relatively pricey option—at $10 and more a square foot—for custom-built houses.

At the Ewells' construction site, terrazzo reveals its beauty early on. Workers spread the lumpy mix and even polish it *before* they build the walls and roof, creating a sparkling 2,600 square-foot skating rink that mirrors the trees and sunsets. In the months to come, the carpenters, electricians and other tradesmen who work here may well be enchanted by the shimmering surface, as if they were building a new house on the floor of an old palace.

PHOTOGRAPHS BY CHARLES HARRIS

PREP AND POUR

1

A traditional terrazzo job like the one at the Ewells' new house consists of a cement and aggregate mix spread over a concrete slab to a depth of about half an inch. To prepare for the pour, workmen cut inch-deep grooves, called control joints, into the slab to guide the inevitable cracking as the concrete cures and shrinks.

2

1 Then comes a thorough cleaning as, from left to right, Jimmy Stewart, Walter Miller, James Crowder and Jason Aycock power-wash and sweep the slab to get rid of loose debris. The cleaning is followed by a scrubdown with dilute muriatic acid to kill algae, which can weaken the bond between the concrete and the terrazzo. 2 Next, zinc dividers are cemented to the slab, creating a grid of 3-foot squares. To stop wet terrazzo from flowing into the parts of the slab where walls will be built, plywood strips are temporarily fastened to the perimeter. Right before the pour, the entire surface gets a thin coat of an epoxy solution. With the slab prepared, the terrazzo ingredients are combined according to a precise recipe: in this case, a quarter-pound of black pigment for every 94-pound bag of white portland cement and 200 pounds of marble chips. The chips are a mix of three colors: Cardiff green (70 percent), raven black (25 percent) and Georgia white (5 percent).

3

4

3 "Pour it out!" hollers foreman Alan Aycock as Keith Kelly and others fill wheelbarrows with the dark-gray mud, push them up onto the slab and dump the loads. The terrazzo is immediately spread and compressed with a heavy roller. 4 To work it down even more, some of the men get out their floats, bend low and trowel the surface

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GRIND AND SHINE

5 Like a farmer feeding his chickens, a worker scatters even more of the aggregate mix to make sure the finished surface will be packed. When foreman Aycock yells, "Roll it off!" the heavy roller returns to further compress the aggregate and force out air bubbles. The cement is allowed to cure for two days. When the terrazzo kings—as the workers call themselves—return, the mud is still dull and lumpy but hard as granite. At Aycock's next command, one of the kings guides a 500-pound grinder across the floor.

6

6 Spinning a dozen 4-inch-diameter diamond-grit stones, the machine slowly smooths the lumps. A smaller, more maneuverable grinder the size and shape of an elephant's foot works into the corners and around plumbing, electrical and other projections. After several passes, the stones are replaced with those of finer grit to sharpen the shine. It takes most of a day to polish the floor and bring to light the silvery zinc-bordered squares and the sparkling marble colors. Hosing down the terrazzo reveals tiny pinholes, evidence of bubbles the roller didn't squeeze out. To fill them, a thin slurry of tinted cement is spread across the entire floor. 7 Carlos Ines keeps the cement from spilling off the slab by shoveling a dirt dam onto the perimeter. 8 When the cement sets, Benny Byrd makes a few passes with a smaller grinder to polish out any remaining scratches. By this time, the men can look down at the gleaming surface and see reflections of themselves at work.*(continued on page 60)*

5

7

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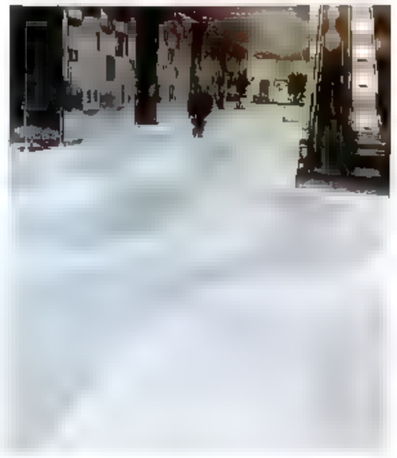
LUSCIOUS LOBBIES

(continued from page 56)

Starting at the end of the last century, terrazzo craftsmen found a lot of work in hotels, schools and office buildings. Tough and economical, the material inspired creative designs, thanks to its free-flowing nature and to the zinc and brass divider strips that could define any shape or pattern. Next time you amble through a lobby, a train station or the halls of academia, check out what's underfoot. As the examples shown below demonstrate, some amazing floors have surfaced from a pile of chips and cement.

FILM CENTER, 630 NINTH AVENUE. *Completed in 1929 and named a New York City Landmark in 1982, the ornate art deco building still delights visitors with its original lobby floor, a geometric mix of terrazzo and solid marble.*

TIME & LIFE, 1270 AVENUE OF THE AMERICAS: *Built in 1959, the 47-story limestone- and metal-clad tower in New York City's Rockefeller Center not only has a wavy terrazzo lobby but also an outdoor promenade paved with the same design.*



Gorgeous Gravel

It's the aggregate, the colorful chips, that distinguishes terrazzo from plain old cement and lends it an artful complexity. Shiny glass, iridescent mother-of-pearl and bright plastic—in addition to traditional marble—offer a range of colors and virtually unlimited combinations of chips and pigments. To control the look of the finished product, terrazzo installers start with standard mixes, established by the National Terrazzo and Mosaic Association, and then make samples for their clients. "People want to coordinate with other flooring such as carpet or tile or even stone," says Dave Roberson of the David Allen Company, the Ewells' installer. "We can pretty well match a granite to where you can hardly tell the difference." After finalizing the recipe, Roberson goes to great pains to maintain consistency in the field, weighing and packaging the pigment and mixing the aggregates at the shop. "Even then," he says, "everything affects the color: humidity, temperature, even the amount of water. It's really more of an art than a science."

Fantastic Plastic

"Any color you want, it's like mixing paint," says Dave Roberson of the Raleigh, North Carolina-based David Allen Company. He's speaking of epoxy-based terrazzo, a modern alternative to the traditional cement formula. Strong and durable, the material can be spread as thin as ¼ inch, which allows its use on wood floors as well as concrete slabs and opens the way for installations in houses and other framed buildings. The epoxy base can also produce much richer colors than cement terrazzo because the resin can accept more pigment without being weakened.

Epoxy ingredients cost more than those in cement terrazzo, but the mixture installs more quickly and hardens in only a few hours. "You just mix, pour and trowel and come back the next day to grind," Roberson says. And because epoxy doesn't absorb stains like cement terrazzo can, there is little maintenance work involved. Yet that kind of durability actually raises a possible drawback: the temptation to choose an exciting but unusual color, and then have to spend a lifetime with it.

PHOTOS: GLASS JARS: MICHAEL GRIMM; INTERIORS: KOLIN SMITH

MANUFACTURERS, MATERIALS, PRODUCTS, RESOURCES ~ PAGE 140

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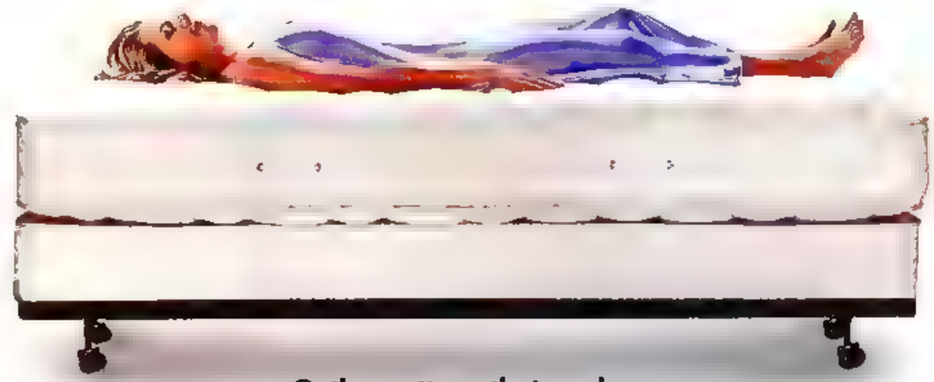

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Kitchen design: Lee Wanasegar, CKD, Kitchens by Design, Plainview, NY/Photo: Carl Bates

PHOTO: MARK DARLEY/ESTO

BY VICTORIA C. ROWAN

PUTTYING PERFECT

Selectively stripping out old, brittle putty and laying in new keeps windows young

The weakest part of any old wood sash window is the putty. Over the years, as putty hardens and cracks, water enters and rot sets in. Simple, timely replacement of bad putty can save an entire sash from destruction.

Wood-sash windows last generations if the glazing compound that surrounds the glass remains elastic and tight. Glazing compound (putty) closes the gap between wood and glass, usually sloping ever so slightly to direct water away from the wood. But because one of putty's major ingredients, linseed oil, evaporates over time, the compound dries out and shrinks away from the glass, leaving an avenue for moisture. Although some hard chunks of old putty may easily crack off or fall out, stubborn stretches require firm but gentle routing with a specialized tool. (See "Putty Buddies," page 64.)

Glazing-compound manufacturers—as well as some painters—recommend stripping out good putty with bad because old putty can leach oil from new. But John Stahl, a window restoration expert, says, "It's far better to replace the worst parts than put off the job until you can do a complete by-the book reglazing." Often the only parts that have to be re-puttied are those where water tends to collect. A strategic repair doesn't take long—and now is an excellent time to tackle the job, before winter really sets in.

To remove putty, Stahl generally prefers to use hand tools and a heat gun. "You're much less likely to gouge the wood or break a pane of glass as you coax this stuff out of tough corners," he says. "Patience, however, is the most important tool in the box." After removing bad putty and before applying new, seal the wood—and remaining putty—with an oil-based primer. Check the wood first with a moisture meter, a reading higher than 18 percent is a warning

that the wood may rot and that neither primer nor putty will stick.

Putties are easiest to work when the outside temperature is at least 40 degrees Fahrenheit. Scoop out a blob of the oily dough, and knead it until it's warm and elastic. Hold the golf-ball sized lump in your palm, and gently squeeze the compound out between thumb and forefinger—as with a pastry bag—using your thumb to press the putty into the rabbet where glass and wood meet. Holding the putty knife at an angle, touching wood and glass simultaneously, draw the blade over the bead to form a smooth line. Look through the window from the other side to make sure the putty doesn't peek above the wood. If the bead looks good enough, stop. At this stage, obsessive smoothing can actually undo a perfectly adequate job.

Depending on humidity, the glazing compound will cure in two to three weeks. Then the putty must be painted to form a moisture seal. Putty is ready for paint if it feels like a fresh cookie: a bit soft on the inside but crisp on the outside so that lightly pressing a finger doesn't leave an imprint. Spread paint just above the putty, about ⅛ inch, and onto the glass. Once painted, the putty should look like part of the wood—and last a good decade or two. ■

Even without telltale peeling paint, cracking or visible gaps, putty may have lost its grip. Check by tapping a pane to see if the glass rattles. John Stahl double-checks for hairline separations between putty and pane, using a .010-inch feeler gauge for gapping automobile distributor points, TOP. After removing old putty, Stahl kneads new compound and presses it into the groove between wood and glass. He smooths the putty, above, by running the edge of a knife along the seam at a 45-degree angle.

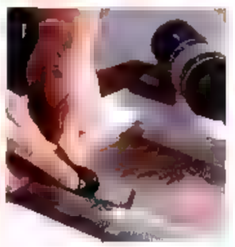
Putty Buddies

Here are some tools for digging out fossilized chunks of glazing compound, especially when you must replace a cracked pane or repair a rotten sash, which requires full-scale putty excavations.

LEATHER-HANDLED WEDGE: Simple and effective. Has a 5-inch chisel-shaped blade to dig out loose putty without damaging wood. Well balanced and feels solid in the hand. Made in England and available in the United States this fall.

ELECTRIC CUTTER: A German-made tool that does the job without scratching glass. Makes a lot of noise and vibrates enough to be hard on the hands, however. To avoid grinding into wood, stick a piece of masking tape on the oscillating blade as a depth guide, and back out the machine if its high-pitched whine suddenly drops. *Not* recommended for putties made before 1970, which often contain asbestos, or for lead paint; in such cases, use a putty wedge, which does not produce much dust.

DRILL ATTACHMENT: An accessory that pulverizes old putty and requires great control to avoid gouging wood. (Muntins in fragile condition are particularly vulnerable.) For best results, Stahl makes a shallow pass first, then adjusts the bit to make a slightly deeper swipe.



HEAT AND PUTTY BLADE: Every method has its trade-offs: A blowtorch, although expeditious, can singe wood and break glass, while a heat gun with a special nozzle may offer more control but takes longer. In any case, to avoid overheating panes, Stahl covers glass with an aluminum sheet and uses a tiny flame. Do *not* use if paint contains lead. And be sure to turn off the blowtorch whenever you pause for chipping.

MANUFACTURERS • MATERIALS • PRODUCTS RESOURCES – PAGE 143

PHOTOS: MICHAEL GRIMM

Anyone's home can be flooded.

Think you'll never be flooded because you don't live near water or live high on a hill? Just listen to the news. Experts report that weather patterns are changing fast, and so are your chances of being flooded.

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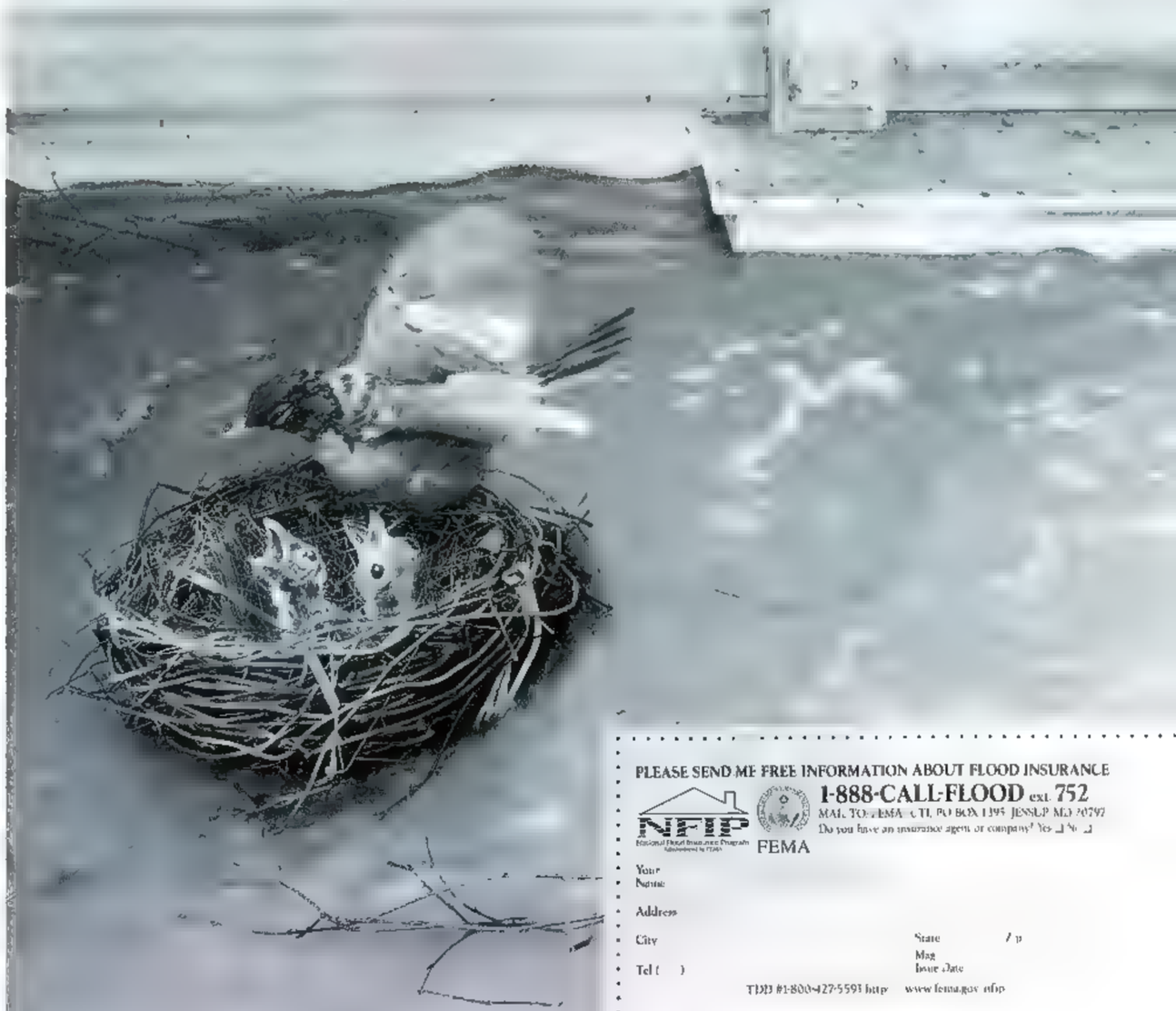

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BY NICK RAVO

EMPIRE BUILDING

Turn real life into a game of Monopoly

Patrick Vigil and Laurence Sermo believed that investing for the long term was the prudent path to wealth. But they didn't understand Wall Street, so instead of accumulating stocks and bonds, they bought a house near their Denver, Colorado, neighborhood and rented it out. Neither the house, a 1906 red brick bunga low, nor their tenants gave them problems, so over the next 11 years, Vigil, 42, and Sermo, 35, bought another single-family and a triplex, both as trouble-free as the first, and adequately profitable. "We bought for appreciation," says Vigil. "The hope is to sell them in 10 or 20 years and then retire to someplace warm and sunny with a beach."

So far, the plan hatched by Vigil, a furniture store owner, and Sermo, a hotel banquet manager, promises to pay off. They write monthly mortgage checks totaling $2,543 and collect rents of $3,840. "We could probably take in more each month," Vigil says, "but we keep our rents low so there is little turnover, and we have good tenants." A recent appraisal valued the three properties at $535,000, well above the combined mortgage debt of about $313,000. If the houses appreciate at a realistic 4 percent a year, their value will double in 18 years. At that point, with the mortgages paid off, Vigil and Sermo would stand to reap a million or so when they decide to head for the beach.

Building a portfolio of profitable rentals has long been a popular way to create wealth. "It's a lot of people's dream to become a landlord and just live off the properties," says Keith Gumbinger, a vice president with H.S.H. Associates,

ILLUSTRATION BY ZOHAR LAZAR

a New Jersey mortgage-analysis firm. There's no magic to financing a string of properties and, for those not deterred by the hassles of being a landlord, the real-estate classifieds are filled with money-making opportunities. But while Vigil and Sermo make it look easy, profiting from rentals in the 1990s requires more selective, patient and realistic attitudes than it did in the booming '70s and early '80s.

With appreciation rates rarely soaring to the double-digit heights they once reached, success hinges largely on careful buying. Prospective landlords should look for houses in areas where appreciation will, at least equal the rate of inflation. Buyers should also avoid overpaying to the point where the monthly cost—mortgage, taxes, insurance and upkeep—threatens to exceed the potential take from tenants. Investors often look for bargains on foreclosures and fixer-uppers, remembering, of course, that the rental income must support the renovation and maintenance economics. As long as those fundamentals are in place, it doesn't necessarily matter if the owner is much of a handyman or has hours of free time to manage a property. To minimize time investment, owners of profitable rentals can hire a management company for about 10 percent of the rent.

Yet no matter how carefully they buy, empire builders need the support of a healthy real-estate market. After big setbacks in the late '80s and early '90s, the market has staged a decent comeback in recent years, says economist Karl E. Case, a professor at Wellesley College. With appreciation surpassing today's tiny inflation numbers and mortgage interest rates at historic lows, the once chilly climate for buying and renting out houses and apartments has warmed.

The good times make it easier for would-be Trumps to own several properties, thanks in part to the power of leverage, the seeming magic of making money on borrowed money. It works like this: Instead of scraping up down payment money from other income or plundering a savings account or pinching every penny, you grab some of the equity from a property that's gone up in value. The down payment for Property A could, for example, come from the equity in a primary residence, usually by refinancing it or taking out a second mortgage or home equity loan. When Property A appreciates, the gain funds the purchase of Property B. After enough equity builds up in Property B—or additional equity builds up in Property A—you refinance again and buy Property C. This can go on and on, as long as the properties keep appreciating. "In a rising market, leverage works, but in a falling market it kills you," says Case. When a house's value drops below the mortgage balance, the equity evaporates and the empire-building formula doesn't compute.

To minimize downturn troubles, buyers should look for lenders who'll accept low down payments—10 percent or less. To protect their investment, lenders often want to see prior leases, says Gumbinger, as well as a rental market analysis that proves the house won't be a money loser. "They'll also want to know if you have a track record with this kind of property," he adds. "If you don't, the lender may require a higher down payment or charge a higher interest rate. And whatever your experience, if a property has more than four apartments, the rate will almost certainly be higher."

Many investors start their empires when they purchase a new house for themselves and turn their previous house into a rental. Others get into the business by renting out a vacation house they can't possibly use all the time. Having someone else cover a mortgage and tax bill appeals to many a rookie landlord, says Peter G. Miller, author of six real-estate books and the creator of America Online's Real Estate Center. "And they get curious. Can they make more money by owning more properties? Making that jump requires much more of a commitment. You're running a business. It gets more complicated."

So beware, buyer-to-be. For the investment to pay, especially in the short term, it must create a positive cash flow with rent that more than covers all costs. Buying an income property with even a small negative cash flow rarely makes sense. Today's low interest rates help keep mortgage costs down, says Case, as does making a 20 percent down payment—if the cash is readily available—to avoid private mortgage insurance, which can add to the monthly payment. But nothing short of a thorough analysis of a house's assets and liabilities will establish its true worth as a rental property.

Caveats abound. Besides personal issues (landlording), maintenance issues (leaky plumbing, faulty wiring), tenant issues (deadbeats, house wreckers) and financial issues (interest rate hikes, market downturns), the primary rule of real estate—location, location, location—remains in full force. Good location is always in demand, and real estate is driven by supply and demand. Choose well, and there will always be someone wanting to rent that house or, if you change your mind about empire building, buy that rental. ■

The Learned Landlord

As with most business ventures, success in buying and renting out a house is enhanced by paying close attention to details:

- **Hire a licensed inspector or an engineer to do a complete structural check of the property before you buy. A thorough inspection might turn up potentially costly maintenance and repair work that can wreck the income-expense equation.**
- **Determine the amount of the security deposit owed to existing tenants. It could be substantial, especially in a multiunit property, and should be deducted from the purchase price.**
- **Investigate and verify every bit of personal and financial information provided by a prospective tenant. With the applicant's written permission, you can obtain a credit report.**
- **Walk applicants back to their car after the interview and take a close look at it. The way people maintain their wheels can say a lot about how they might take care of your house.**
- **List the rental with an agent to cut down the amount of time spent weeding through the initial onslaught of prospective tenants. A listing service often costs landlords nothing when agents exact the fee from the applicant.**
- **Study the federal Fair Housing Act's laws barring discrimination based on race, religion, sex and other factors. To avoid legal hassles, says real-estate author Peter G. Miller, classified advertising should focus on "bricks, bedrooms and baths, not people."**

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BY CURTIS RIST

With its lively asymmetry and use of the gambrel roof shape, a late 19th-century design built in Gainesville, Texas, proves that the Shingle Style works as well for modest-sized houses as it does for mansions.

BORN IN AMERICA

Shingle is the style we adore

As a young architect in the 1960s, Robert A.M. Stern realized an ugly truth about the modern, boxy houses and buildings he saw going up around him. They all looked the same. "With very few changes, the same structures would be suitable from Maine to Madagascar," he says. "As I traveled, I realized what a nightmare that had become. The airports were all the same; the Holiday Inns were all the same. You didn't know whether you were *in* Maine or Madagascar."

Seeking to correct the problem, Stern revived a long-forgotten but fundamental tradition of American architecture: the Shingle Style. Initially developed in the 1880s, it broke from Victorian formality and hyper-decoration in favor of designs that were simpler and more casual yet no less elegant. With its roots in straightforward colonial-era houses

PHOTOGRAPH BY MICHAEL MANUEL

and barns, the Shingle Style represents what many consider to be America's first original architecture.

"Shingle Style domestic architecture is the best this country has ever produced," says Vincent Scully, a noted Yale University art historian who in the 1940s coined the term for what had been called American Queen Anne. "It's free, it's playful and it's quite wonderful." In its first incarnation, the Shingle Style inspired some of this country's greatest architects. Stanford White sprinkled eastern Long Island with shingled mansions. Frank Lloyd Wright relied on it for his own house in Oak Park, Illinois. A century later, the style's allure has rebounded, and Stern—who was inspired by Scully, his professor at Yale—leads the current revival with a string of mostly mansion-sized houses built over the last 30 years. He also created a Shingle Style design for *This Old House*'s Dream House, now under construction in Wilton, Connecticut. It contains an imposing 5,500 square feet of living space yet manages to maintain a friendly, smaller-scale appearance.

The Shingle Style thrives on variety. A circa 1920 house, left, in East Hampton, New York, delights in a fanciful collection of window styles and sizes. An 1890s manor, below, in New London, Connecticut, features an international array of architectural elements—from its round chateau-style tower and Romanesque arches to the Palladian window that crowns the gable.

As Shingle Style houses did at the end of the last century, today's versions possess an approachable, democratic quality that holds up whether the design is for a 2,500-square-foot suburban gem or a rambling mammoth. Says Stern, "There are no absolute rules governing the style, which makes it possible to create buildings that are freer, looser and more in accord with the way we live now." The secret to their appeal, says Stern, lies in a breezy informality that is in tune with American sensibilities. Unlike the Georgian and Federal styles, which are marked by symmetry and an often slavish adherence to form, the Shingle Style embraces inventiveness and responds to the site. "In the typical house, you have a stone base, a connection to the earth," says Stern. "Then you have this wrapping of shingles that come down very low because often the second floor is treated like an attic. It's a relaxed way of composing a building because we can make it up of smaller elements. We can twist it around and shape it as we choose to."

Shingle siding, the style's common denominator, continues an early American tradition in which splitting shakes from a cedar log was cheaper than milling it into clapboards. But even without a shingle skin, the style still works. Designs faced with stone, stucco or even brick retain the aura. And while they have none of Victoriana's gaudy gingerbread and flashy paint jobs, Shingle Style houses are nevertheless laden with a variety of details and even some architectural fancy of their own. Dormers punctuate roof pitches in several forms—gables, hips, sheds and eyebrows—and the rooflines themselves show a lot of shingle in steeply pitched gable-end and gambrel shapes. Towers were—and remain—popular, as does a profusion of windows. As siding, shingles are shaped and arranged in patterns ranging from fish scales and diamonds to ocean waves. In the original examples, architects felt free to incorporate unexpected materials into exterior walls, including rounded stones from local riverbeds or, Stanford White's favorite, dulled hunks of beach glass. "In designing these houses, architects were eager to root themselves into a continuum of New England culture," says Stern. "This brought the style very close to its source, but then the idea rapidly spread across the country."

Interiors also gained a new openness, fueled in part by the invention of central heating. "You didn't have to close all the doors, shut all the windows and huddle by the fireplace just to keep warm," says Stern. No longer divided into a warren of poorly lit rooms, Shingle Style floor plans grew long and narrow, and rooms had windows on two or even three sides. But the most prominent feature of these houses lay outside. Porches, long loved by Americans, blossomed with the Shingle Style. In the grandest examples, they envelop the house, becoming not just a place to sit in the summer but also a place to live. "There are, of course, porches in other cultures," says Stern, "but with the Shingle Style they become an American obsession."

As with all things truly American, the style evolved from a grand tangle of international origins. The porches descend from the English style known as Queen Anne, round towers from French

PHOTOS: TOP MICK HALES; BOTTOM THOMAS HAHN.

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Function and form marry well in Life magazine's 1994 dream house, designed by Robert A.M. Stern and built in Kennesaw, Georgia. The expandable floor plan allows for 2,500 to 3,200 square feet of living space, and the facade displays many features Stern often incorporates in his Shingle Style designs, including Doric columns, bracketed eaves and first-floor window boxes.

chateaus. The complex framing owes a debt to a delegation of Japanese woodworkers who were sent to the 1876 Centennial Exposition in Philadelphia. They electrified the building trade with their sophisticated techniques. Even the intricate latticework of traditional Chinese architecture worked its way into the style's eclectic mix. Still, at its heart, the Shingle Style reflects a nostalgia for America's colonial past, triggered by the centennial, when, Scully says, "Americans for the first time acknowledged that they had a history." Before 1876, decrepit colonial houses and buildings that were falling down or being actively demolished had gone largely unnoticed. Americans looked abroad for their architecture, as they had since the Pilgrims imported their taste for late Elizabethan styles. But celebrating the country's centennial caused people to see new meaning in colonial design and inspired architects to search for a distinctly American way to build.

Among them was Charles McKim, cofounder of the legendary McKim, Mead and White architectural firm. In 1874, he traveled to Newport, Rhode Island, to study and photograph early settlements and came upon Bishop Berkeley's 1728 house. "It started out as a simple 18th-century saltbox, which was then added to again and again so that the roof slopes way down in a very naturalistic way," says Stern, pointing to a photograph of the charming but ramshackle building that appeared in the influential *New York Sketch Book* in the same year the photo was taken. "It bears the weathering of time and seems very natural in its configuration and very different from the boxy, four-square, mansard-roofed architecture of that period." Infatuated, McKim and his partners began to incorporate this colonial ramble in their designs. Other architects did the same and found ample opportunity to test out their ideas. With the Civil War over, the United States was in the midst of an unprecedented building boom, powered by a growing middle class. Train travel and innovations such as electric power and the telephone made it possible for people to work farther away from home, which led to suburban development near cities and brought more people—and building—to what had been far-flung resorts such as Newport. From the 1880s to the early 1900s, Shingle Style houses sprouted around the country, popping up in Chicago, San Francisco, Seattle and "anywhere else

Tall Order

Among the eclectic array of details that define Shingle Style houses, none stand out so proudly as their towers—such as the one, right, on a Robert A.M. Stern-designed house in Quogue, New York. Compared to the imposing mansard-roofed designs found on Victorian town halls, these shorter, shapelier versions are more integral to the main structure and tie into the roofline instead of rising high above it. "Towers are beautiful extensions of the house, rather than something that's tacked on as a separate element," says Virginia McAlester, coauthor of *A Field Guide to American Houses*.

About a third of all Shingle Style houses have some sort of tower, says McAlester, the result of a variety of influences. Rounded towers echo barn silos, says Stern, while others—especially those built on the New England coast—mimic lighthouses. When architectural historian Vincent Scully tracked the history of towers, he discovered another source: the chateaus of the Loire Valley in France. Many 19th-century architects traveled there, sketchbooks in hand, and returned with visions of tall towers in their heads. Says Scully, "It's one more thread in a tapestry of style."

PHOTOS: TOP LEFT, PETER AARON; BOTTOM, LIZZIE HIMMEL

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where there was an abundance of wood," says Stern. At its peak, the style became this country's first architectural export. Examples can still be found from Germany to Chile.

Yet no design trend lasts forever. Even though it endured for more than a generation, the Shingle Style eventually absorbed classical details, such as Greek columns and ornate exterior moldings, from the emerging Colonial Revival style. Its free form grew steadily stiffer, and by the 1920s it was all but gone.

The timing of the current rediscovery of the Shingle Style somewhat mirrors its original emergence. America at the end of this century resembles America at the end of the last. A great economic boom has followed a divisive war. Significant advances in technology and increases in population, which drove a massive national expansion in the late 1800s, power international growth in the late 1900s. "Shingle Style architecture came along in a period when America developed its own characteristics—in literature, in architecture, in everything," says Scully. "It embodies all the symbols and aspirations of the middle class, including pride. It represents who we are. And it means as much to us now as it did back then."

In the 1990s, the Shingle Style is neither stark nor fussy. It's homey, like a grandparent's house, says Stern, motioning to a set of plans for the Wilton Dream House. "But one doesn't necessarily want to live with Grandma, so what you have here is Grandma's house without Grandma." ■

The Dream House and the Shingle Style

Besides the angled footprint that takes three turns and the cedar shingles that spill from the eaves and sheathe the walls, *This Old House* magazine's Dream House—now under construction in Wilton, Connecticut—embodies many of the Shingle Style's most significant features.

1. LOW ROOFLINE
Putting second-story rooms directly under the roof eliminates tall exterior walls and gives even a 5,500-square-foot house a smaller, less imposing scale.

2. ECLECTIC DORMER STYLES
A mix of shed, hipped and gable designs fights monotonous uniformity outside and adds appealing angles inside.

3. GAMBREL ROOF
Inspired by the Dutch Colonial houses and barns of the Hudson River Valley, the shoulders of the bumped-out pitch create more volume for second-story rooms.

4. LOTS OF WINDOWS
More than 50 double-hung and specialty units, plus several full-light doors, bring ample daylight inside and emphasize a sense of openness on the outside.

5. CLASSICAL TRIM
The Greek columns on either side of the front door and the built-up window and door trim recall decorative elements found in early 20th-century Shingle Style designs.

6. DIAMOND-SHAPED SHINGLES
By breaking up an otherwise uniform expanse, the decorative pattern, called imbrication, adds visual interest.

7. OCTAGONAL TOWER
The two-story structure adds a dramatic sitting room to the master suite, shelters an outdoor living room and anchors the house's most prominent corner.

8. COVERED PORCH
Starting here and running for more than 90 feet along the back of the house, the veranda provides a broad, shaded stage for summertime outdoor living.

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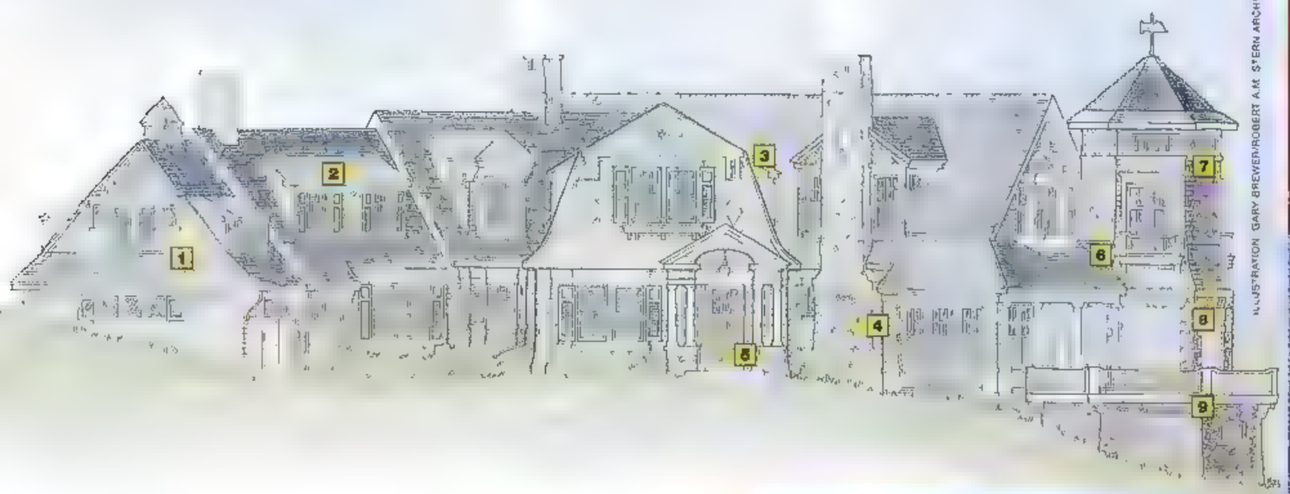

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THE MONEY PIT

BY BROCK YATES

UNINVITED GUESTS

Here come the ladybugs and the bats

My wife and I love animals. We have two dogs and two cats at Farmstead, our house in upstate New York, and the wooded hillside nearby is home to deer, foxes and all manner of birds. We're delighted to have wild critters as neighbors, but we prefer that they stay outside. Of course, unless one chooses to hermetically seal the entire structure of an old house in acrylic, small animals will find a way to intrude. Every year, a few field mice attempt to establish winter quarters in our house but make a hasty exit once they encounter the cat. Carpenter ants and other pests that try to take up permanent residence are quickly sent packing by the exterminator. Only the occasional visiting cricket is treated cordially. The

A Farmstead bedroom was overrun by ladybugs that probably came in through cracks in the siding. "If ladybugs find entry to a house, they'll exploit it," says Craig Hollingsworth, a University of Massachusetts entomologist. "They'll stay through the winter and then disperse when the weather warms."

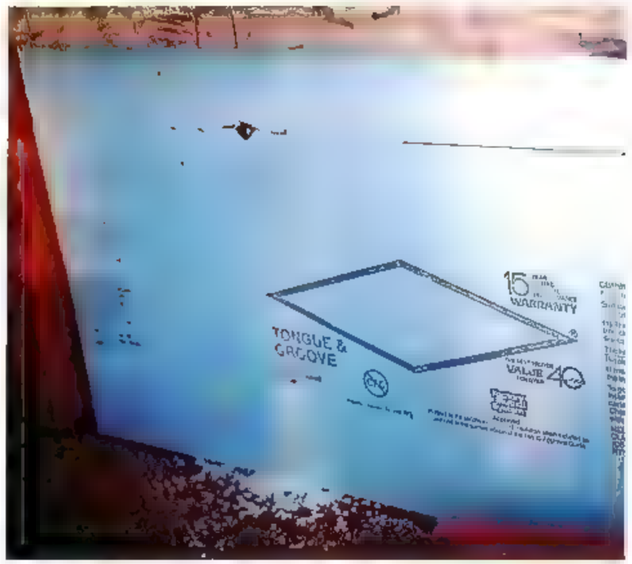
PHOTOGRAPHS BY QUENTIN BACON

reason: superstition. Since childhood, I've clung to the notion that a cricket brings good luck.

Ladybugs are also believed to be harbingers of good fortune. We didn't extend a welcome when squadrons of ladybugs recently invaded Farmstead, buzz-bombing lamp shades and treating our clothes as landing strips. Good luck or not, we decided the ladies had to go. We called in the exterminator, who rolled his eyes and began estimating the cost of removing clapboards to seek them out. While we debated whether it was worth spending $1,000 to launch an all-out counterattack, they mysteriously disappeared. No explanation, no good-byes, no thank-you notes. We considered ourselves lucky.

At least the bumptious, intrepid bugs were harmless. Not so another species of flying intruders, bats. Even though naturalists on PBS insist that bats are benign and highly intelligent, I respectfully demur. They are no more appealing as houseguests than tarantulas, iguanas or wharf rats. Maybe I've seen too many Dracula movies, but I find it downright frightening to have black wraithlike creatures flying in my house.

Bats have visited us twice recently. Each time, the fearsome flying mammals squeezed through the flue of our bedroom fireplace and appeared in full flight above our bed. On both occasions, my wife, Pamela, a plucky and fearless soul, let out a bloodcurdling scream and rushed from the room. I was tempted to follow her, except I didn't want to grant the bat de facto permission to stay and perhaps invite other members of his family. I felt it was my duty to remain on site and do battle by flinging heavy books and waving towels and pillows at the fast-maneuvering critter in a feverish attempt to guide it toward an open window in the bedroom.



Mice in the Farmstead attic have been known to steal insulation for their nests. Poison and traps proved useless, so Yates got two cats to control the mice. At first the battle sounded like World War III, but the mice are in retreat, at least for now. "Some mice will always be with us, but at least they stay out of our sight," he says.

After bats popped in for a couple of nocturnal visits—making their entrance through a fireplace in the master bedroom—Yates covered the top of the chimney with steel mesh. "We already had a chimney cap for keeping birds from building nests up there," he says, "but the bats squeezed through it."

This clever strategy worked the first time. But the canny bat who got into our bedroom several months later was more elusive and eventually skimmed behind a drape and seemed to vanish. After I decamped to another bedroom with my wife, I was advised by a friend to be patient. Bats, he said, need large quantities of water. If their supply is cut off, they will shrivel and die within hours. To test this theory, I waited 24 hours before I entered the bedroom, hoping to find a small, dried-up corpse. But this bat evidently had a tolerance for drought. The battle commenced again, and more furtive flailing sent it back into hiding. I turned the room upside down—searching the curtains, the bed linens and all the spaces behind and underneath dressers, chairs and the bed. My nemesis was not to be found.

During day three of the bat wars, another friend suggested I arm myself with a strategic weapon—a tennis racket—which he claimed would compromise the sophisticated natural radar system that makes it possible for a bat to perform acrobatic maneuvers.

By the time the bat came out of hiding that night, I was desperate. Gripping an aged wooden-handled Wilson in need of restringing, I stalked across the bedroom and, with a deft forehand, nailed my quarry on the first swing. I peered down at the poor critter and discovered it was no bigger than a hummingbird. I was seized with guilt.

I got over that sort of neurosis but have yet to shed my fear of bats. Every time I light the logs in our bedroom fireplace, I brace myself for another shadowy form to flit into the room. But now I am prepared. I keep my tennis racket close at hand. And I know there has to be a cricket huddled somewhere in the house who will bring us good luck. ■

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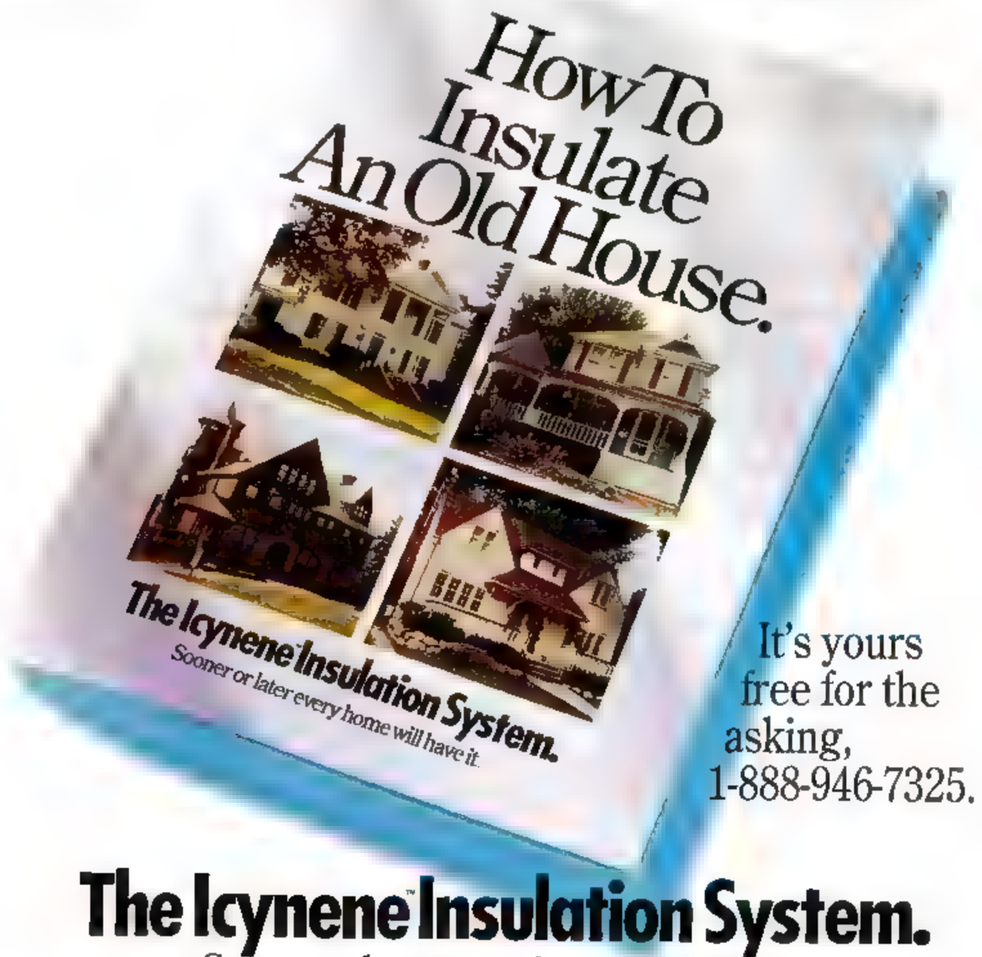

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A LAWN GOOD-BYE

Timing is the secret to getting grass through winter

Steve Thomas spreads fertilizer on a San Francisco lawn made up of cool-season fescue and ryegrass and warm-season Bermuda grass.

One might suspect that a turf coordinator for the most famous city park in the world would have special tricks for maintaining his showpiece lawn. But when it comes to keeping New York City's 13-acre Great Lawn in Central Park alive through winter's frost, Russell Fredericks does what any home owner would: feed the roots with fall fertilizers and over-seed for spring thickness. "We want a full, lush lawn in the spring, just like everyone else," says Fredericks. Whether your lawn is cool-season grass, like the Great Lawn's mix of bluegrass and ryegrass, or a warm-season variety, stick to the basics.

The northern two thirds of the United States is home to cool-season grass, such as Kentucky bluegrass, ryegrass and fescue. Although these grasses stop growing aboveground in the fall, the roots go into overdrive. Fertilize with a 15/5/10 nitrogen/phosphorus/potassium mixture in mid-fall, after the average daily temperature drops to 50 degrees Fahrenheit or below. "During the winter, cool-season grass stores up nutrients," says Michael Gaffney of the Professional Lawn Care Association of America. Test the soil pH level and, if it's below 5.5—too acidic for proper nutrient absorption—treat with lime, about 25 pounds per 1,000 square feet of turf. If thatch, the spongy layer of detritus between blades of grass, is more than ½ inch thick and is choking roots, rent a power rake for de-thatching. Over-seed, halving the amount recommended for a new lawn, to get a head start on spring. If the lawn has a history of snow mold, apply liquid fungicide at Thanksgiving (after the first frost, before the first snow) as a preventative measure.

Making Warm-Season Grass Grow Greener

In the South, Southwest and temperate Northwest, warm-season grasses such as Bermuda, Bahia, saint augustine and centipede are common. Because there is little threat of snow, lawns in these areas can be kept green all winter by seeding with a cool-season grass, such as annual ryegrass, six to eight weeks before the first heavy frost, using 10 pounds per 1,000 square feet of lawn. Some seed companies recommend fescue for winter greening. Beware: It can survive into summer and choke out warm-season grasses. If you haven't put down any seed, apply a pre-emergent herbicide so broadleaf weeds won't return with spring growth. Spread lime if the pH levels fall below 5.5. Finally, de-thatch where necessary.

BY ALEXANDRA BANDON PHOTOGRAPH BY CHRISTIANA CEPPAS

MANUFACTURERS MATERIALS • PRODUCTS • RESOURCES — PAGE 143

THANKS TO HOME DEPOT THIS MARRIAGE STARTED OUT ON A FIRM FOUNDATION

GARY & DAWN GIBSON

May 2, 1996

For Home Depot—

Having all the answers about home improvement is one thing — but who would've thought we'd ever come to you for wedding advice.

Let me explain.

We wanted to build a deck at our new lake house so we could get married there. Thanks to your employee John Norland, we pulled it off. From suggesting the right wood, to recommending a speed square that saved us time and money, John was great.

We literally drove the last nail hours before the wedding and everything went off without a hitch (sorry). The deck looks terrific, and John's advice made all the difference. Next to the minister, he was the one person we couldn't have gotten married without.

Sincerely,

Dawn Gibson

P.S. Pictures are enclosed.

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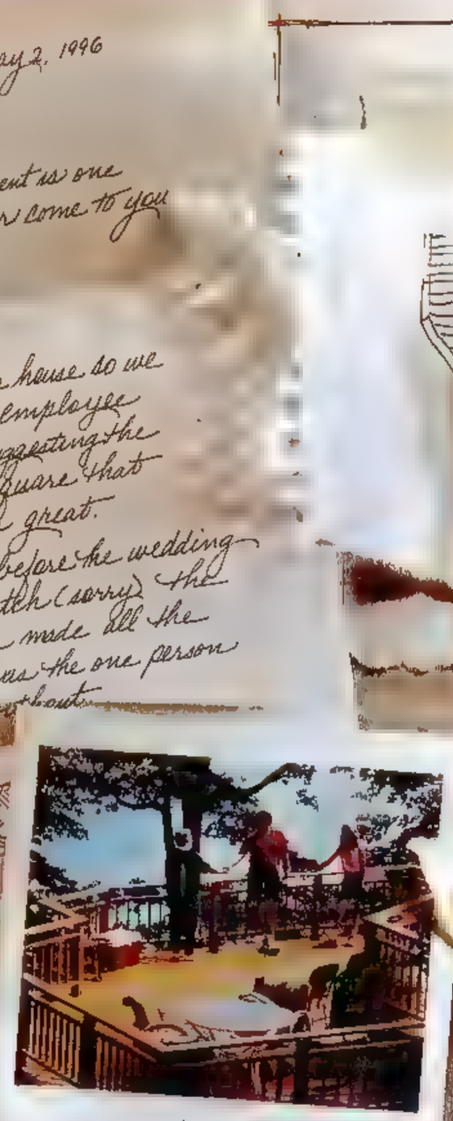

The finished deck

project sketches

½ Row

The "BIG" day

the site

Progress

A flower for the wedding

CLINIC	DAY	
YOU CAN INSTALL A SUSPENDED CEILING	EVERY MONDAY	7 PM
YOU CAN BUILD A DECK	EVERY TUESDAY	
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YOU CAN PAINT YOUR INTERIOR	EVERY FRI	7 PM

Inspiration

SMINK-GIBSON WED AT LAKE CYPRESS SPRINGS

Mt Vernon, TX The former Ms. Dawn Smink and Gary Gibson were wed Saturday, March 23, 1996 outdoors at the site of her soon to be completed lake home located on Lake Cypress Springs, near Mt. Vernon, Texas.

The couple invited 100 friends and family members over for an afternoon of boating, skiing, fishing and swimming, then surprised everyone with an impromptu

...ony was Justice ...ad his wife, Myra, ...er of Mr and Mrs ...as, Texas. She is ...unt Hotel. Mr Gib... ...o Richards Group ...y located in Dallas ...l by Sandman's Bar...

THE HOME DEPOT

CUSTOMER NAME Dawn & Gary Gibson

LOCATION Mt Vernon, TX PROJECT deck

EMPLOYEE NAME John Norland STORE # 0550

DATE 5/14/96 ARCHIVE NO 96-3247

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A TAP FOR ALL SEASONS

Installing a freeze-proof outdoor faucet

All summer long, outdoor faucets serve and amuse, providing a stream of water right where it's needed. But winter can turn this amenity into a nuisance, or worse. "The exciting day isn't the day it freezes," says *This Old House* plumbing and heating contractor Richard Trethewey. "It's the day it thaws, and you have a hydrant blowing water into your basement." The reason: Most outdoor faucets have washers located outside a house's exterior wall. If you haven't drained these spigots before the first freeze—quite common, says Richard, because home owners like to keep these handy taps going—water in the pipe turns to ice, pressure builds up and the pipe bursts. A freeze-proof faucet's washer is 6 inches or more inside the house. It costs $20 and takes an hour to install. "You'll never think about your outdoor faucets again," says Richard. "And, hey, there's always that one warm day in February when you might want to wash the car."

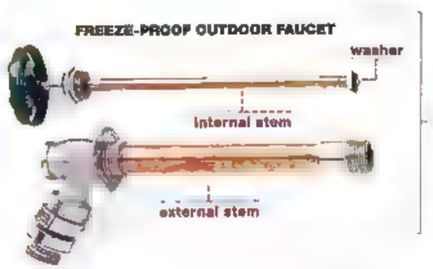
Carpenter Charlie Silva uses a right-angle drill to punch a hole for a new freeze-proof faucet. Moments earlier, Richard Trethewey had removed an old nonfreeze-proof one, after shutting off the water, draining the spigot and cutting the pipe close to the new connection. The hole for the old faucet was too big for the new one, so Silva had patched in a small piece of wood flush with the siding.

Richard guides the faucet, pipe and plastic flange into the hole Silva has drilled, then snugs up the screws so the spigot is securely fastened to the house. "You will often need a fitting to make some adjustment," says Richard. The new pipe was short by 2½ inches, so he cut a piece of ½-inch copper pipe—in this case, a piece from the old faucet works fine—and extended the shaft to the proper length.

In the house, Richard solders the two pipes—having first checked that they fit exactly—cleaning each end with an emery cloth and applying solder flux before starting. When the pipes have been heated, the flux acts as a catalyst between the solder and the copper to bind the pipe. Soldering completed, Richard turns the water back on in the basement. It streams out of the open faucet outside the house.

Avoiding Burst Pipes

In the past 10 years, insurance companies have paid home owners $4 billion for damage caused by frozen and ruptured pipes. The worst problem, surprisingly, is in warmer climates, according to Jeff Gordon of the Building Research Center in Champaign, Illinois. A few tips: • Before the first freeze, turn off the valve that feeds non-freeze-proof outdoor faucets, open the outdoor faucet, and let it drain. • Drain garden hoses, and store them inside. • Drain all in-ground lawn sprinklers. • If the house will be unoccupied for a few weeks during winter, be sure to leave the thermostat set to 55 degrees Fahrenheit.



LEFT: On a freeze-proof faucet, the washer is on an internal stem that slides into an external stem; it ends up 6 inches or more inside the house, protected from the elements. RIGHT: On traditional spigots, common to houses more than 10 years old, the washer is next to the faucet handle, outside of the house and exposed to the weather.

BY SASHA NYARY PHOTOGRAPHS BY KELLER & KELLER

STILL LIFE PHOTOS: SPENCER JONES

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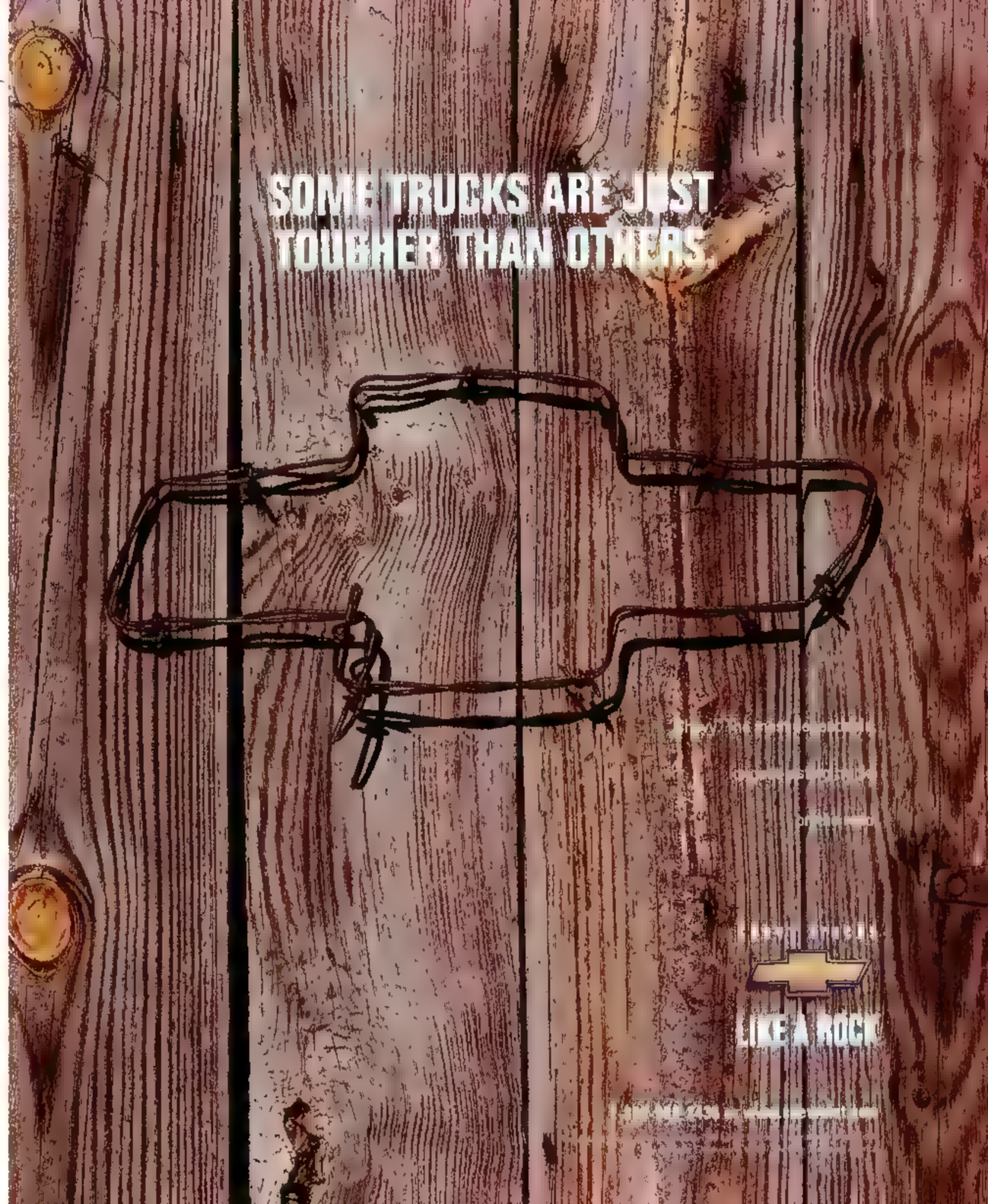

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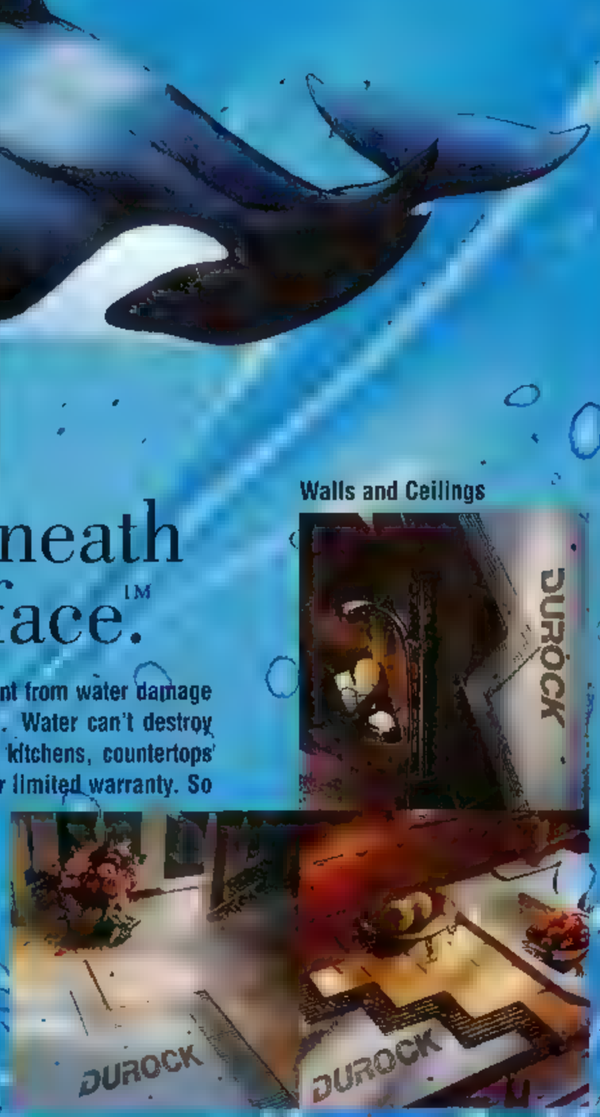
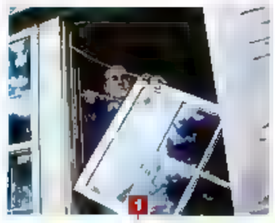


Floors

Countertops/Backsplashes

PILE IT ON

Weather strip drafty windows with this nifty technique



1. *Stahl pulls out the sash. (First, he breaks any paint seals with a utility knife, removes the stops with a pry bar and cuts the chains.) He lets the weights fall and pulls them out through a panel typically found where the inside sash meets the frame. (If the chain or cord is salvageable, just untie or unclip and attach when reinstalling the sash.)*
2. *Using a router with a three-wing slot cutting bit, Stahl cuts a ⅛-inch-wide-by-⅜-inch-deep channel around three outer edges of the sash, excluding the meeting rail edge. Because two of these edges house the sash cord, he is careful to avoid the existing grooves. (Note: If the edge measures 1⅜ inches wide, there may not be enough room to rout a groove the entire length. Stahl suggests cutting up to the sash cord channel.)*

Steve and Hilary Chasin love their 62-year-old slate-roofed Georgian on Long Island and its windows—43 double-hung, single-glazed eyes looking out on wide sycamore-lined streets. But from the day they moved in two years ago, they realized that all 43 windows leaked. "We had to keep the thermostat at 80 degrees just to feel comfortable," says Hilary. Determined to fix the problem but reluctant to part with the handblown glass in every sash, the couple turned to window restoration contractor John Stahl. "The simple fact is that only 10 percent of heat is lost through the glass in a window," he says. "The rest is lost from the perimeter." Stahl's solution for the Chasins' windows: Rout grooves around three sides of each sash and slide in soft, fuzzy weather strip. Similar to the weather stripping found on automobile windows, the nylon pile seals gaps as wide as ¼ inch. Although the trim holding a sash in place must be removed carefully, Stahl says almost anyone can install this type of weather stripping. The materials cost about $30 per window. "A lot less than $650 for a replacement," he says.

3. *Stahl routs a groove on the inside face of the lower sash meeting rail and slides ⅛-inch pile in the kerf. Then, he inserts pile in the grooves on the outer edges. To reinstall a sash, he holds it in place and checks if it fits snugly from side to side and moves easily up and down. If it's too tight, he planes off some wood; if too loose, he tries a thicker pile. He rehangs each sash and installs new stops.*

Checking the Sash Cord and Pulleys

While the frame is opened up, grab the chance to check the window's hardware. Stahl recommends replacing aging cotton sash cords with high-quality braided nylon rope. Old chains can be swapped for bronze, copper or galvanized steel. Check to make sure pulleys spin freely. If they resist, scrape off excess paint, or drop them in a bucket of paint remover, then apply household oil. If all else fails, replace them.

BY HOPE REEVES PHOTOGRAPHS BY MICHAEL GRIMM

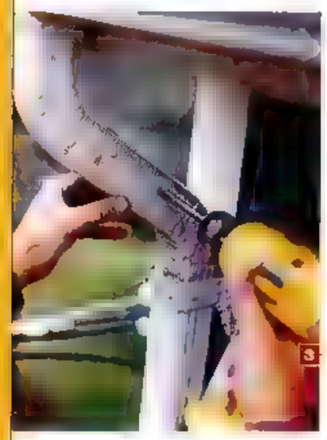
MANUFACTURERS' MATERIALS PRODUCTS • RESOURCES ~ PAGE 143

WHILE YOU'RE UP

After you scoop the gunk out of the gutters, honey, could you check for corros on and loose fasteners too?

Without gutters, rain falling on a house takes the easiest route: down the side of the structure—eventually seeping into the foundation to wreak havoc. But if gutters are leaky or clogged, they can do more harm than good. Chip Newman, who has been installing gutters in the Boston area for more than 20 years, considers gapped seams, loose fasteners and corrosion the worst enemies of conventional aluminum gutters, the most prevalent type on houses today. (Wooden gutters began losing ground to aluminum in the late 1970s and are now found almost exclusively on historic houses.) He suggests close inspection of the gutter during autumn leaf-removal rituals. A hint for spotting corrosion: On a sunny day, stroll around the perimeter of your house and look up; if you see specks of sky through the bottom of the gutter, the aluminum is pitted and needs repairing. If the aluminum is so badly corroded that you can easily push a finger through, it's time to replace the gutters. Don't avoid cleaning and maintaining gutters because you hate going up a ladder: Hire a gutter-cleaning service to do the work. "They have yet to invent a maintenance-free gutter," says *This Old House* master carpenter Norm Abram. "When they do, I'll buy it."

1. Shovel heavy debris out of the gutter with a scoop or gloved hands, then flush with a garden hose. Flushing without first removing the waste by hand is a recipe for downspout trouble, because needles, leaves and pinecones will be pushed into unreachable recesses. After the gutter is empty and completely dry, patch pits in the bottom with silicone caulk, fill gaps in seams and joints with silicone. 2. Check for sagging gutters. Fasteners can work themselves loose over time, or may not have been properly installed in the first place. For gutters with a spike and ferrule system, drive an oversized (8-inch) spike into the traditional 7 inch hole. Loose hangers should be reaffixed with stainless-steel screws. In both cases, be sure each fastener hits a rafter; otherwise, you might as well not bother to do the repair at all.



3. Heat and cold—with their accompanying expansion and contraction—can loosen a downspout. To make sure it doesn't part ways with the elbow, fasten the two with screws or rivets. Use aluminum or stainless-steel screws. "The shorter the screws, the better," says This Old House *contractor Tom Silva. This is also a good time to clean debris out of downspouts and check the fascia boards for rot.*

Gutter-Cleaning Formulas

Although not as important as emptying gutters, cleaning the exposed sides makes sense too. Newman has developed two formulas. For dirt, use ⅓ cup clothes detergent and ⅔ cup trisodium phosphate mixed with 1 gallon of water. For mildew, use ⅓ cup detergent, ⅔ cup trisodium phosphate and 1 quart bleach mixed with 3 quarts water. Use a spray bottle and, wearing rubber gloves, rub gently with a rag.

BY HOPE REEVES PHOTOGRAPHS BY KELLER & KELLER

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NOT THROUGH THIS DOORWAY!

Keep cold air and water out by replacing a threshold at the first sign of damage

For centuries, thresholds have been symbols of welcome, but they are also weak points at which water and cold air can make their way into a sturdy house. *This Old House* contractor Tom Silva cautions that a less-than-perfect threshold, like the one he recently replaced on the back door of a house in Reading, Massachusetts, is an invitation to trickling water. "Cracks, rot, broken pieces—any signs of water infiltrating—you don't want that to go for too long," Tom says. Although the Reading house's threshold was relatively new—installed only 12 years ago—it had a broken edge. He replaced the wood with new oak threshold stock, first taking time to waterproof the exposed sill and subfloor with a layer of self-adhesive rubberized membrane. "Rot grows fast and, if you don't stop it right away, you end up with a sill problem rather than a threshold problem, and then you're really looking to spend some money," Tom says.

1

Tom cuts the old threshold with a reciprocating saw, being careful not to mar the sill, and pries the wood out with his hammer. Before cutting, he measures the threshold in the way he favors. He makes a pencil mark about midway along the old threshold. He measures from one side of the doorway in to the pencil line, marks that dimension on the new oak, then repeats to get the measure from the other side.

2

Tom uses the pieces he has removed as a template for the new board, separating them a pinch to make up for what the saw blade ate and measuring to be sure he matches the true length. Then, he traces the L-shaped profiles on either end. He rough-cuts the ends with a circular saw as far as the blade will go, and switches to old-fashioned manpower and a handsaw to finish the notch precisely.

3

While the sill and subfloor are exposed, Tom waterproofs them by putting down a layer of self-adhesive rubberized membrane, which acts as flexible flashing. "Water comes down and hits the ground in front of the door, splashes back up, gets under the threshold, hits the sill of the house and rots it," he says. "This is just a little added insurance." Now he is ready to put the new oak threshold in place.

4

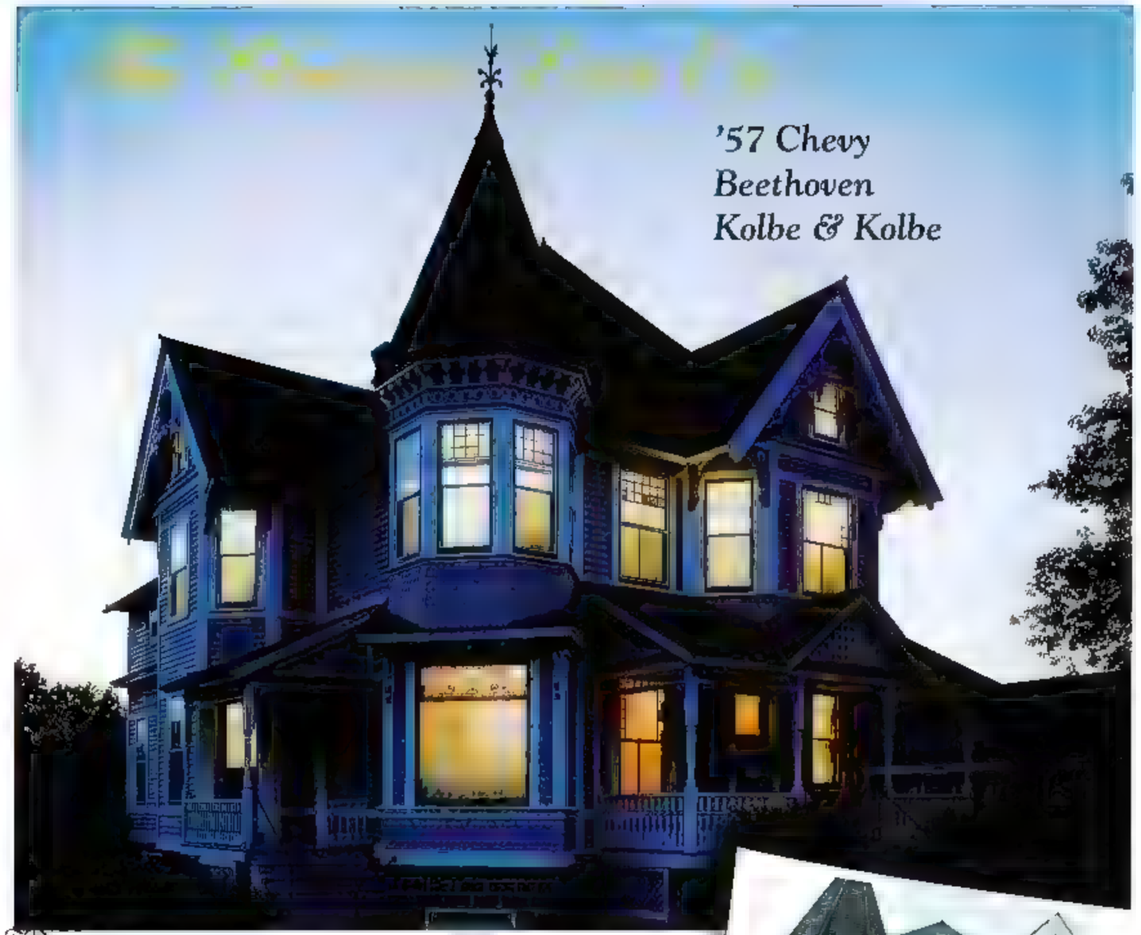
Tom coaxes the thickest part of the wood past the jamb with a little help from his hammer, then shims the entire board up to fit flush. Silicone sealant, construction adhesive and canned foam insulation inserted into crevices under the doorway are the best materials for holding the threshold in place, nail holes mute cracks and water seepage. Tom uses a power planer to fit the bottom of the door to the height of the new threshold, then rehangs the door, making sure the new threshold and the door are snug. He aims for a tight fit against winter cold but with enough room for expansion created by extremes in temperature.

Weather-Stripping the Door

While the door is off its hinges, take time to weather-strip. After Tom planed the solid pine door at the Reading house, he routed a ½-inch-wide, ⅜-inch-deep groove in the bottom, then coated the surface with water-repellent primer. Finally, he fit a spline of ½-inch nylon-pile weather stripping into the groove.

BY ALEXANDRA BANDON PHOTOGRAPHS BY KELLER & KELLER

MANUFACTURERS MATERIALS PRODUCTS RESOURCES – PAGE 143



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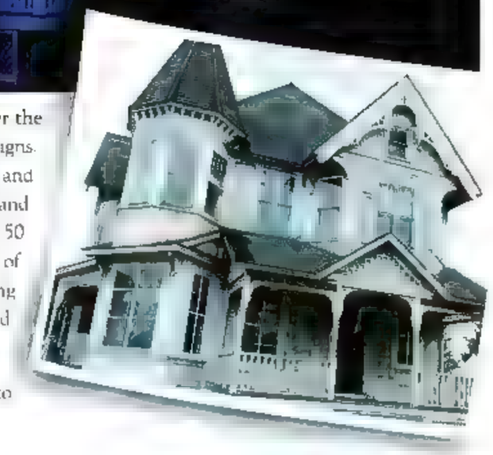

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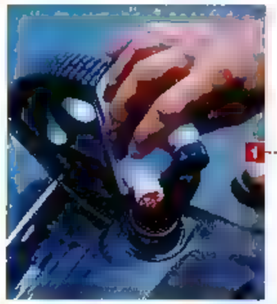
BE KIND TO YOUR MOWER

A little concentrated care now will pay off next spring

By summer's end, you've no doubt marched countless steps behind your trusty lawn mower, inhaling the heady aroma of freshly cut grass as your lawn shoes turn slowly but surely green. Now it's time to abandon the mower in favor of a leaf blower, but first take time to put old faithful away properly. Most likely, your workhorse is a walk-behind deck with a four-cycle engine, some 35 million of these beasts tackle 25 million acres of lawn in the United States each year. The best maintenance for your lawn mower: a thorough cleaning and an oil change. Also, remember to tighten every bolt you can find, replace the spark plug and air filter, and either sharpen the blade (don't forget to precisely balance it afterward) or replace it.

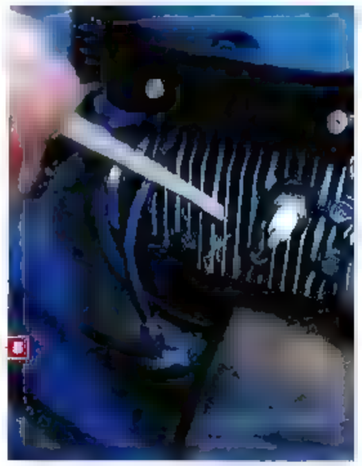


Squeeze fuel stabilizer into the mower's gas tank, then drain the fuel in one of two ways. Run the tank dry while giving the lawn its final cut of the season, or siphon the fuel into a gas can. (Be careful not to spill gas, when it evaporates it releases polluting hydrocarbons.) Restart the engine until it won't start, most likely two or three times. This action removes remaining fuel, protecting the tank and carburetor from condensation and rust.

Before draining the oil, remove the spark plug as a safety measure. Then, loosen the crankcase plug, and drain the oil into a drip pan. Recycle the used engine oil at a nearby service station; if you are unsure where to recycle the oil, call the local office of the Environmental Protection Agency (under the government listings in the phone book). After cleaning the lawn mower as suggested below, refill the crankcase with fresh oil.

Once the fuel tank and crankcase are empty, turn the mower on its side and scrape away grass and mud buildup on the deck and blades. "Hosing down just isn't gonna do it," says Toro spokesperson Mike Ferrara. He recommends a putty knife to remove impacted clippings. After cleaning, protect steel parts of the mower deck with a light coat of household oil. If rust is beginning to show, sand first, then spray with metal primer.

Replacing the spark plug is "probably the easiest thing to do to ensure more spark and more power," says John Liskey, technical director of the Outdoor Power Equipment Institute. Drop a few teaspoons of engine oil into the plug's empty hole, and pull the starter rope to turn the engine over and distribute the oil. Install the new plug, using a neoprene-lined socket to protect the porcelain. For safety, don't reconnect the wire until sprung.



Grass, mud and other gunk in the cooling fins can make an air-cooled engine overheat. Clean between the fins with an ice-cream stick or any scrap of wood that slides easily into the slits. Replace the air filter, and always check the owner's manual for additional maintenance steps recommended for your mower.

Putting Away Riding Machines

Clean and lubricate choke and throttle linkages, change engine and transaxle oils, check the muffler for corrosion, replace worn drive belts and pulley bearings, tighten loose belts, remove the mower deck to scrape off grass, and place the tractor on wood blocks so its wheels hang free. As with walk-behind mowers, run out the gas, replace spark plugs and air filter, and clean between cooling fins.

BY ALEXANDRA BANDON PHOTOGRAPHS BY JASON SCHMIDT

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Those who've had a sneak preview have nice things to say about it. Priced in the middle of the pack, we're betting it'll end up at the head of its class.

This Delta exclusive gives you a lock on snipe control. Patent-pending cutterhead snipe control lock stabilizes the cutterhead during operation, for complete rigidity.

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LETTER from *This Old House*

IT TAKES TWO

Readers tell us they look forward to the coverage the magazine provides as a complement to watching Norm, Tom, Richard and Steve work on the TV show's fall projects. So here's some good news: This year, fans will have two houses to follow instead of one. Together, they offer a more comprehensive look at remodeling and construction techniques than either could provide alone. The first is the highlight of the TV show's 20th anniversary season, a 5,000-square-foot Queen Anne in Watertown, Massachusetts. The exterior of the house is everything a Victorian ought to be: beguilingly detailed, warm and inviting. The outside doesn't need anything but good, honest maintenance. The interior, as with most old houses, is a chopped-up mess and will be completely revamped. The second project is a compelling Shingle Style house of about 5,500 square feet, designed by noted architect Robert A.M. Stern, to be built on 2 acres of hillside meadow in Wilton, Connecticut. Our coverage of this project, which won't be depicted on TV, will show that new construction doesn't have to be soulless, that the same familiarity, charm, detailing and workmanship found in old houses can be brought to a new one. Outside, the Wilton project will look like a house that has been around a long time and been added onto over the years. The inside will be modern—with stunning, long sight lines, perfectly proportioned spaces and open floor plans that still allow for privacy. The Watertown and Wilton projects represent the ways Americans get their dream houses: renovation and new construction. The settings and styles are quite different, but both houses will be full of good ideas for new kitchens and baths, new heating and cooling, new electrical and plumbing systems. Intriguingly, both houses will end up costing about the same. We're projecting $240 a square foot for Watertown and $260 a square foot for Wilton.

ILLUSTRATION: MICHAEL MCLAIN

Our readers love to remodel, but their search for great old houses can be frustrating. Outside the Northeast, they can be hard to find—about a third of all houses in the United States have been built since 1970. And although rebuilding Victorians is surely the TV crew's first love, executive producer Russ Morash points out that the 1989 project in Concord, Massachusetts, was essentially a new house on an old foundation. "We could only save a few timbers from that rotted-out barn, but people loved the new house we built where it used to stand." —*Stephen L. Petranek*

PHOTOGRAPH BY WILLIAM HUBER

Maybe we're missing something here. But we've always thought it crazy for people to have to pay a bundle just for the privilege of driving a safe, well-built car.

So when we sat down to create Saturn, it seemed to us like that might be a pretty good place to start.

Keep it reasonable, we thought. There are plenty of expensive vehicles out there for people to spend their money on.

Mountain bikes, baby strollers and IRAs among them. Which, as it happens, explains ingenious ideas like polymer bodyside panels. Not only do they protect your investment from the assorted dings inflicted by such everyday hazards as the renegade shopping cart or errant rock, but we also made them incredibly easy to recycle. So we can bring them back to life as, well, how about new bodyside panels, for starters.

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SATURN.

An inspection of the fall TV project in Watertown, Massachusetts, reveals a charming and colorful Victorian. All it needs is a little opening up, a completely new kitchen, a master suite, a new staircase, a new chimney and four new bathrooms. (Did we mention the plumbing, heating and wiring?)

Grand Queen Anne

BY BRAD LEMLEY PHOTOGRAPHS BY WILLIAM HUBER

THIS PAGE: Norm Abram, left, and Tom Silva agree the house is in great shape, given its age. "I'm encouraged," says Norm. "When you've got a good base to start with, projects tend to go well." OPPOSITE: The facade has changed through the years—the roof of the original porch was also a balcony, accessed through the door next to the Palladian window.

Flanked by stately beige mansions, the saucy Queen Anne Victorian on Russell Avenue smacks the eye with a blast of iridescent yellow—a sulfur-crested cockatoo among seagulls. Inside, the oddness accelerates. The oak-manteled fireplace, curved-glass windows and fluted trim are prim and well mannered, but the colors hail from a fevered tropical dream: flamingo pink in the entryway, palm-frond green in the hall, cashew-flower crimson in the kitchen.

This Old House's fall television project, in the conservative, hardworking Boston suburb of Watertown, Massachusetts, bears the exuberant imprint of the previous owner, the late Dr. Mary Howell. The effect of her wild color scheme in this good gray Boston 'burb is surprisingly refreshing, but *T.O.H.* master carpenter Norm Abram, squinting at the facade through the late-spring mist, is a realist.

"The paint scheme will have to go," he declares solemnly.

With that—the first of a thousand remodeling edicts to come—Norm, contractor Tom Silva, plumbing and heating contractor Richard Trethewey and series producer Bruce Irving begin to inspect the two-story house with finished attic. They will scour all 5,000 square feet of space for problems obvious and obscure. Armed with flashlights, screwdrivers, tape measures and more than a collective century of old-house experience, they aim to find out if the new owners will be able to realize their plans for the place, without suffering unbearable financial pain.

"Here we go," says Richard, grinning. "Another archaeological dig."

Christian Nolen and Susan Denny bought the $670,000 house because it was com-

Flamboyant and fun, the house's paint palette enlivens the first floor's Victorian door trim, right, and a second-floor bedroom, above. The house has anywhere from 10 to 14 bedrooms, depending on how liberally one applies the term to ambiguous spaces.

THE PREVIOUS OWNER

"The house is very much like my mother," recalls Sam Howell, referring to Dr. Mary Howell, who lived in the big Victorian from 1976 until her death in February at 65. "Elegant, exquisite, but also 'out there' and willing to make a statement."

Howell battled for the rights of women to become physicians and to receive top-quality medical care. While serving as the first female associate dean at the Harvard Medical School in the early 1970s, she blasted the entrenched "man doctor, woman nurse" status quo with the ironically titled book *Why Would a Girl Go Into Medicine? Medical Education in the United States: A Guide for Women.* It was published under a pseudonym, but Howell acknowledged authorship a few years later. She also contributed to the seminal women's-health book *Our Bodies, Ourselves.*

Dr. Mary Howell and her oldest child, Nicholas Jordan, entertain guests at a family wedding in 1997

Howell eventually had seven children: one from her first marriage, two from her second and four adopted. She moved to the big house on Russell Avenue in 1976 after a contentious divorce. "That's when she did a lot of those colors inside," Sam Howell says. "It was a dark time in her life, and she wanted something bold and vibrant." It worked. "The house was always full of people and full of music."

In 1991 at age 59, Howell earned a law degree from Harvard and adopted a Guatemalan boy, Ned. "She painted the outside of the house in his honor, in honor of the new dawn in her life," Sam Howell says. She wanted to "make the house proud and happy."

A GOOD FOUNDATION

Builders like to say that a house needs a "good hat and boots" to survive the predations of water and rot. On this house, the boots are impeccable. The fieldstone foundation, faced with carefully fitted granite blocks, extends 1½ feet above grade at the front of the house, lifting the structure well over potentially rot-inducing rainwater splash and melting snowdrifts. The lot slopes down from the front to the back, so the foundation in the rear is 5 feet tall. But there are still patches of rotten wood, as Tom Silva discovers by poking with a pocketknife. The two covered side porches are failing, their ceilings mottled by stains from leaks in the slate shingles above. "Ice and snow fall from the roof above onto this slate and crack it to pieces," Tom says. Dripping water soaks into wood lower down, creating a perfect growing medium for the fungi that destroy even painted wood.

The house has three stairways, which wastes space and adds to the confusion inside. All three will be dismantled. But pieces of the nicest one, shown here, will be saved and made into a single, new central stairway.

House History

A yellowed, handwritten deed records the 1885 sale of the land on which the project house sits: Orlando Dimick, a schoolmaster, paid $955.20 for the 15,920-square-foot plot. Although no record exists of the construction date, the house appeared in the Watertown directory by 1893.

After a tour of the house, Andrea Gilmore, an architectural conservator with Building Conservation Associates Inc. of Dedham, Massachusetts, concluded that the Queen Anne-style front half of the house was built in the 1880s. The wood trim in front bears geometric patterns typical of the era, she says, and the pocket doors inside were "common in the days before central heating, when you wanted to close off certain rooms." Paint layers on the clapboards reveal strata of the dark greens and browns favored during the 1880s.

Gilmore pegs the construction of the house's rear half to about 1910, basing her view on details such as elegant curved-glass double-hung windows typical of the Classical Revival period. Even the untrained eye can see that the back section is in a different style. As *This Old House* producer Bruce Irving puts it, the two masses resemble "ships that collided."

The house belonged to the Dimicks until 1952, when it was purchased by Thomas P. and Gladys W. Joy. The most recent owner, the late Dr. Mary Howell, took up residence as a renter in 1976 and purchased it in 1982.

parable to $1.5 million properties in nearby Cambridge, Massachusetts, where they now live. "But we'll only be three miles from Harvard Square," Nolen says.

Norm strolls around to the opposite side of the street and confirms Nolen's impression that the old bones are solid. Framing the house with his hands, he says, "I really see no structural issues at all. Things look straight and square. Even the clapboards look good."

The reason? "The foundation is great. Keeps the house high up," Norm says. And the roof appears watertight. Peering through binoculars, Tom notes that only two or three of the roof's slate pieces are broken. Even more encouraging, the ridge shows no sag at all—impressive, given that each 100-square-foot section of a slate roof weighs half a ton. Tom's only roof gripes. "Some of the copper ridge flashing is loose, and the chimney is shot—it's lost so much mortar that repointing won't help."

Satisfied, Norm, Tom and Bruce stroll around to the rear of the property. As they go, Tom abruptly yanks on the English ivy creeping up the clapboards, pulling off a half dozen long, green tendrils. "If you want ivy, build a wall not a house," he grumbles. "Ivy holds moisture on the house, and bugs crawl right up it."

Christian Nolen and Susan Denny had been house hunting long enough to know a deal when it popped up. "We love the grand old houses in this neighborhood, and this one seemed in good shape," says Nolen, a real-estate developer in greater Boston.

Howell landscaped the maple-shaded backyard in 1992, and the 50-by-80-foot expanse is now lush with perennials such as echinacea (coneflower), lupine, phlox and columbine, as well as junipers, blueberries, oakleaf hydrangea, river birch, hemlock and arborvitae. A wisteria covered arbor separates the garden from the driveway. A small reflecting pool and a tiny stone patio, with enough room for just a chair or two, serve mostly to hint at what could be done in the generous protected space. "It's a major reason we were attracted to this property," Denny says. "We really love to garden. We'll be back here all the time."

Buoyed by these observations, the ensemble troops to the house's north side and ducks through the basement door. Flashlights snap on to pierce the gloom.

So much for high spirits.

An inch of standing water covers much of the rough, cracked concrete floor. Mold glazes the parged fieldstone foundation. Two cheap forced-air gas furnaces from the mid '70s—one for the front of the house, one for the back—rise Neptune-like from the stagnant pool. Richard sloshes to the furnaces, reads their specification plates and does some quick mental math. "These are ridiculously oversized. Combined, these furnaces crank out nearly 300,000 Btus. There is no way this house needs more than 125,000. Typical of this industry—the installer wants no callbacks by cold customers, so he puts in a unit twice the size it should be, even though it's terribly inefficient." A pair of cheap gas water-heaters from the early '90s also strikes Richard as wasteful. "See, the 40-gallon wasn't enough, so they tack on another 30-gallon. You've got double the surface area, double the losses from these tanks."

All of it, he says, waving a hand at the plumbing, wiring and heating sys-

tems, "must go away" before any other serious work can be undertaken.

He sees just two bright spots down here: "The fact that the gas line could supply both furnaces proves we've got plenty of supply," he says. "And the cast-iron sewer pipe exits from down low in the cellar wall. That makes it easier to pitch sewer lines from the back of the house."

Tom has several solutions for the indoor lake. His favorite: "In the summer, when this dries, I would jackhammer up this floor, put in drainpipes or put a French drain around the perimeter. Then I would put down a vapor barrier, put sand over that, then pour a slab." Waterproofing the fieldstone walls is "pretty much impossible," Tom says. "But if you sealed up the floor, you'd eliminate 90 percent of the moisture problem down here."

The mood lifts as the team clomps up the worn pine stairs to the first floor and strolls through the older, front section of the house. Aside from Howell's fluorescent paints, it's "essentially unchanged from the day it was built," Irving says. He notes the smaller touches, old-fashioned speaking tubes and a tiny pair of double doors in the kitchen mudroom, which once received ice deliveries. Each room features a different wood floor—oak parquet, oak strip, wide-plank pine, Douglas fir. Most are in excellent condition.

Although big enough at 12 by 15 feet, the existing kitchen is dark and isolated from the rest of the house. A butler's pantry, through the doorway at the left, leads to the dining room on the sunny south side. The center doorway opens onto one of the three stairways to the second floor. In the new plan, this room becomes a music room and media center.

Throughout the first and second floors and the attic, the tops of windows and doors are almost level, evidence that settling due to a bad foundation or rotten structure isn't a concern. In a closet in the finished attic, Tom knocks a ceiling cover plate out of the way. Shining his flashlight into the gloom, he illuminates the secret of the roof's sag-free condition: beefy 2-by-8-inch rafters 16 inches on center. "That's excellent," he says.

But all is far from perfect here. The interior's overall layout, which includes a bedroom that is also a hallway and a dark, isolated kitchen, has the crew's sledgehammer muscles twitching—many of the walls must go. "There's no question that it's a rabbit warren," Nolen concedes.

The husband-and-wife design team, Toby and Sandra Fairbank, have been drafting alternative remodeling plans for Nolen and Denny for several weeks. "The basic problem is that the interior has no focus," Toby says. He waves a hand at the first-floor labyrinth. "You have lots and lots of rooms that are all roughly the same size. We need to create some spaces that fit the scale of this big house." The Fairbanks' preliminary blueprint would put a huge gourmet kitchen across the back of the first floor, create a sybaritic master suite in the back section of the second floor and raze all three stairways. Parts from one of the stairways would be used to build a new one sweeping up near the center of the house.

This ambitious plan would be ruinously expensive if structural remediation were necessary. But aside from the need to rip and replace heat, plumbing and electrical systems—often the case in a house this old—most of the remodeling budget of $400,000 can go toward upgrading the house rather than shoring it up.

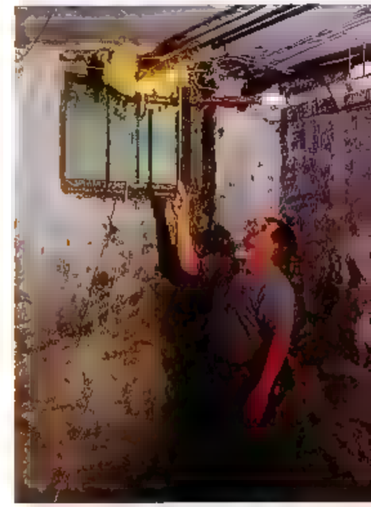
Back in the front yard, the misty morning has given way to a sparkling late afternoon, and everyone is upbeat. Norm takes a last look at the screaming yellow facade, mentally stripping the paint and envisioning the stately, solid structure beneath. "It's been a long time since we've started out with a house that didn't have a whole horror show to deal with," he says. "I'm definitely encouraged."

Tom nods. "You'll never find a house this old without problems. But on a one-to-10 scale, this is a nine." ●

Five fireplaces warm the house. The gorgeous specimen in the music room is crowned with a Colonial Revival white-oak mantel.

THE PIT BELOW

When Tom Silva descends to the basement, his inspection reaches its low point literally and figuratively. Hot-air ducts, some made of galvanized sheet metal and others of rotting plywood, are swaddled with decaying asbestos insulation, which in spots has come unwrapped and dangles like Spanish moss. Some of the asbestos is being sucked into open seams in the plywood ductwork. "So it's blowing right into the house itself—that's great," Tom mutters. Snaking around the ducts is a snarl of copper hot- and cold-water lines as well as cast-iron, copper and PVC drainpipes. Wires span the history of American electrification: crumbling knob-and-tube from when the house was built, rusting metal-sheathed BX from the 1940s and some modern, plastic-insulated wire. As for the electrical service, Tom says the tangle of elderly wiring, which leads to a 100-amp circuit-breaker box, will all be removed and replaced with plastic-sheathed wiring and a 200-amp box.



when wood meets its match

Firewood season: time to split, stack and burn

I like trees. I hug them. I buy recycled toilet paper so the forest will stay forest, and I harangue my friends to do the same. So why is it that a while back, when I was walking in the forest, I looked at a tree and was overcome with desire to cut it down? I thought not "What a lovely ancient beech, its gray bark like the hide of an elephant" but rather "There's a lotta Btus in that baby. Wish I had my chain saw with me. I'd

BY NATHANIEL READE PHOTOGRAPHS BY MATTHEW BENSON

THIS PAGE: A maul can be used as a splitting ax, as shown, or in lieu of a sledgehammer when setting a wedge. OPPOSITE: Forged steel splitting wedges have long replaced wooden ones for cleaving tough logs. Generally 7 to 8½ inches long, wedges weigh 3 or 4 pounds and vary subtly in design to improve splitting action. **1.** *A twisted shank pushes apart the wood with each blow.* **2.** *A beveled edge cuts into wood quickly, and a grooved shank reduces friction.* **3.** *A star shape tapers to a fine point that easily exploits any crack in the log. Serrated sides keep the wedge from sliding back out.* **4.** *A variation on the basic square-head and straight-shaft wedge design: flared side fins that help to push wood apart.*

PHOTO: MICHAEL GRIMM

hack it to bits." Like my friend who calls herself a bacon vegetarian because smoke-cured pork is too delicious to give up, I'm a tree hugger who loves burning wood.

Smell the smoke. The earthy, primitive aroma unleashes an urge that lurks in the dusty basement corners of our DNA, like a hairy Neanderthal waiting to escape. Maybe that's why some kids feel driven to steal a book of matches and ignite a little pile of oak leaves, why a woman I know and her brother felt compelled as children to torch the barn, then the chicken coop, then their sister's bed. As adults, we don't lose all of our primitive urges. We just learn how to channel those urges into socially acceptable forms. We do our pyromania in a fireplace.

Wood fires were once so important that a Vermont wife could sue for divorce if her husband filled her stoves with green wood. In the mid-1800s, the average American family put 17 cords into the woodshed each year. Nowadays, one of my friends says, "The only people who burn wood are the ones who are too stupid to use electric or gas." Myself, I can't imagine anything more dull than a life of convenience. When I work a woodpile, I feel connected to an era when performing physical labor was not considered a sign of brain damage.

Splitting wood can be wonderfully aesthetic. Aficionados identify logs by sound and smell. Dry poplar seems to pop open. Black birch smells pepperminty, box elder—some say—like a cat's litter box, red oak like fresh sausage. Cleaving a stick of firewood in two with a single righteous blow feels like knocking a baseball out of the park. And for exercise, it beats pedaling a computer under the fluorescent glare of some gym.

A cord of dry beech produces up to 21.8 million British thermal units, the equivalent of the energy thrown off by 130 gallons of heating oil, 1 ton of hard coal or 4,000 kilowatts of electricity. Cheap though it may be, heating with wood teaches frugality. Nobody who heats a house by hauling logs, snapping kindling and scooping out ashes is going to build huge or unnecessary rooms.

Burning wood hypnotizes. Perhaps that's because we're fire ourselves, burning at a modest 98.6 degrees Fahrenheit. Wood fires bring out the sensualist in us. Just try romancing a date in front of an oil burner or roasting chestnuts on a radiator.

Reduced to pure chemistry, a wood fire is photosynthesis in reverse. Fire absorbs oxygen and releases stored carbon dioxide, water and light. Wood is a carbohydrate. Heated to the proper temperature—usually with match and paper—and supplied with sufficient oxygen, wood metamorphoses from solid to liquid to vapor, leaving behind ash and charcoal. The flame we see is an ignited plume of gas including methane, ethane, propane, butane, pentane, hexane, heptane and octane.

But as a Maine Guide named Ray Reitze taught me, wood fires transcend mere science. They connect us to the unspoken mysteries of the earth. Reitze was trained in his youth by a Micmac Indian elder. Last summer, I went on a weeklong canoe trip with him, traveling as much as possible the way the old native had taught him. We brought no tents or sleeping bags, very little food and no matches. Instead we used an old-fashioned bow drill: a string on a curved stick that spins a fat cedar dowel that I pressed with a wooden handhold into a cedar board. This friction eventually produces a pile of blackened cedar dust and, one hopes, a tiny smoking red coal inside that dust. When I sandwiched the coal in a bundle of fine, flammable tinder and blew on it, my hands filled with flame.

After several successes, I lost the touch one day. I could not for the life of me get a fire going. I said to Reitze, "What am I doing wrong?"

He didn't give a technical solution to my problem; he gave me something better. He smiled and said, "Did you ask it to burn?"

No. But when I did, it did.

A tree lover can burn wood, Reitze taught me, just like an animal lover can eat meat. But every time we throw another stick on a blaze, we owe it to the trees to do so with care, respect and a word of thanks. As the writer John Oxenham once said, "Kneel always when you light a fire." ■

Splitting

Wood needs to be split for two reasons: to reduce it to manageable pieces, which burn more efficiently, and to dry it out. Bark seals in moisture. Green wood is more than half water, which robs a fire of energy—and therefore heat. A colder fire smokes and produces creosote, which can contribute to chimney fires.

Many wood-splitting veterans prefer a splitting maul or a sledgehammer and wedges to a hydraulic splitter. In fact, all four have their place in a wood-splitting repertoire.

Start with the maul or sledgehammer and the wedge, tossing aside the hard-to-split uglies to tackle later with the power splitter. Stand the log on a chopping block, such as a stump, which preserves sharp tool edges and puts your energy into the log being split rather than into the ground. Using the maul's butt end, or poll, tap the wedge into the log—exploiting a crack, if possible—until the target bites. Then, keeping an eye on the wedge, raise the maul over your head, and bring it down squarely on the wedge, letting the weight of the maul do the work.

Having more than one wedge handy is also a good idea; if one gets stuck, use a second and if necessary a third, starting them with a 2-pound hammer. Should the maul get stuck while you're using it as a splitting ax, whack the poll with the sledgehammer.

Start at the narrow end of a log and work toward the trunk to take advantage of the expanding wood grain. Difficult logs—those, such as elm and sycamore, with interlocking grain—should be split laterally, as opposed to radially, taking slabs off the sides.

For logs 3 or more feet long or logs cut at angles so they don't stand up on a cutting block, use a hydraulic splitter, which has a piston to force the log against a wedge. If you rent a heavy-duty model, don't make the classic mistake of overdoing it in a rush to get the machine back to the shop. And wear gear that allows movement as it protects: safety glasses, steel-toed boots and, with a power splitter, earplugs.

Stacking

For the basic chimney or pen stack, raise the wood off the ground with boards or pallets, and alternate logs at right angles three by three, or two by two for fatter logs. Leave some room between the logs to maximize their exposure to sun and air, but don't make the pile too loose; if a stack wobbles, it topples. Place top logs bark-up to shed water. Just before the first snow, throw on a tarp, leaving the sides of the stack open for air to circulate.

Yank no log off the pile before its time. A cord of wood gives up approximately 1,000 pounds of water before it's considered seasoned. This process can happen over a few hot summer weeks but otherwise takes several months to a year. When wood dries enough to burn, it has cracks that radiate from the center like bicycle spokes, it weathers to gray, its bark loosens and it loses its smell of pitch or sap.

Dry, however, does not mean crumbling. Seasoned wood retains 15 to 30 percent moisture. A moisture meter can resolve any doubts in this department. Kiln-dried firewood, such as those packaged bundles in the supermarket, has only about 7 percent moisture. The logs burn too fast and too hot, which causes most people to damp down the oxygen supply, producing smoke, poor combustion and creosote buildup.

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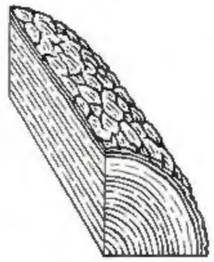
The Best Wood to Burn

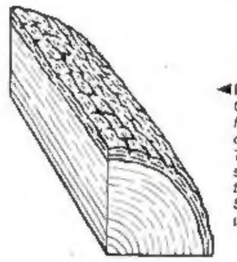
The ultimate fireplace cocktail mixes softwood, which starts easily and burns down quickly, and hardwood, which uses softwood's embers to light, then burns hot and long. Ratings in British thermal units are per cord of air-dried wood.

SOFTWOOD

DOUGLAS FIR
Starts easily, burns fast. Produces 22 million Btus. High resin content causes sparks. A favorite in the West, where hardwood is scarce.



TAMARACK
The leadoff batter—starts fast, prepping the fire for hardwood. Sparks like the Fourth of July. Easy to split. Used all over the West.

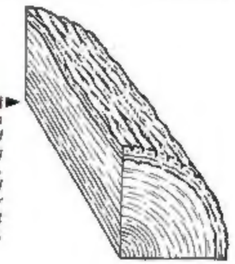


PINE
Good for starting a fire before bringing on the hardwood. Throws off a lot of sparks and only 13 to 20 million Btus. Splits easily for use as kindling.

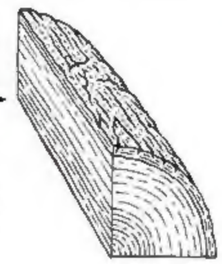
HARDWOOD

APPLE
Throwing a few branches on a fire gives a hint of sweet fruit aroma. Gives off 24 million Btus. Knotty grain makes this wood difficult to split.

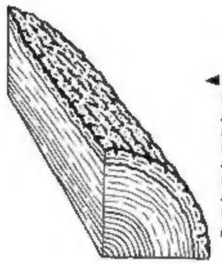
ASH
Starts easily then burns brightly and quickly, producing 20 million Btus. Like maple, good for an after-dinner fire—not to heat the house all night.



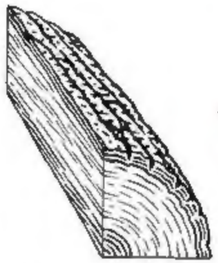
SUGAR MAPLE
Excellent for getting a fire going—not to mention for appeasing impatient fire builders. Produces 21 million Btus. Found widely in the Northeast.



BIRCH
Easy to start—for a hardwood. Throws off a modest 18 million Btus. Short shelf life: gets pulpy after a couple of months on the woodpile.



HICKORY
Burns fiercely hot, producing 25 million Btus. King of the hardwoods and consequently the most expensive. Has a distinctly acrid but pleasant aroma.



OAK
Like hickory, burns best when placed in a deep bed of coals—without a log basket or andirons. A wood with tough bark, it gives off 21 million Btus.

Tooling With Fire

John Graney, left, an architectural blacksmith who has hand-forged thousands of fireplace tools, recommends 31½-inch handles, which give most customers enough leverage to push-pull logs, scoop embers and sweep up ash. Graney, 45, hammered this shovel, poker and tongs, right, out of solid bars, then punched, chiseled and chased them, topping each handle with a slightly different heron head. "We're able put a lot more life into the metal than one gets with cast iron, which is made from a mold. You might use the shoulder, broom, poker and tongs only 20 hours in a heating season, but you look at them all the time."

ILLUSTRATION: GREGORY NEMEC. PHOTO: WILLIAM ABRANOWICZ.

In this circa-1930 fireplace in a converted 18th-century gristmill in Bedford, New York, fires burn from October through March.

Peyton Randolph House was a house divided during the colonial era. Sir John Randolph, the King's attorney for Virginia, lived there from 1721 to 1737, raising two sons who took opposite sides in the War for Independence. John Jr., a loyalist, moved to England. Peyton, a fervent revolutionary, expanded the house from its original square shape (the section to the left of the front door) to its current form. If Peyton Randolph hadn't died in 1775 at age 54, he—not George Washington—might have been our first President.

this old **haunted house**

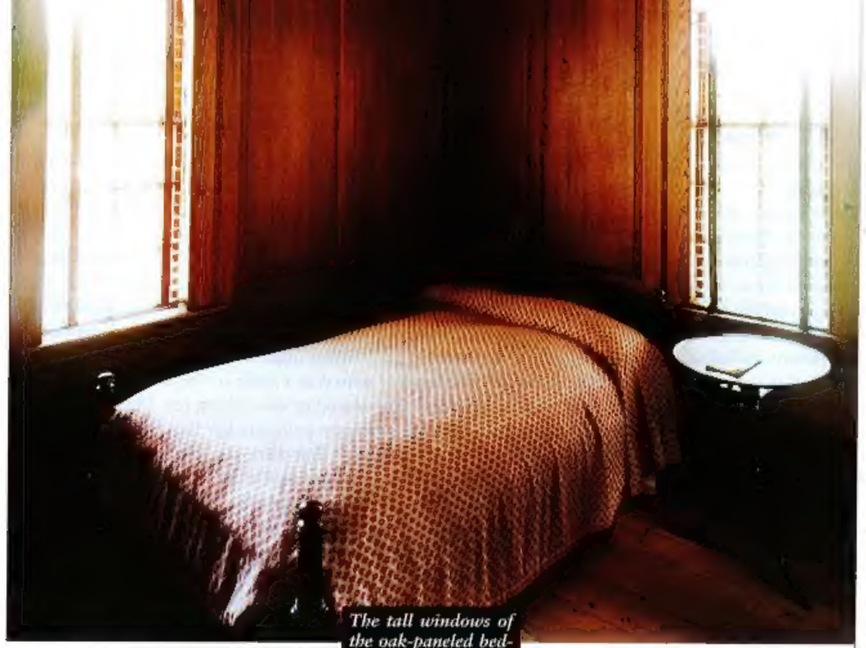
By day, Colonial Williamsburg is a town of congenial living ghosts. By night, the dead can be much more frightening.

BY JEANNIE RALSTON PHOTOGRAPHS BY GRANT DELIN

In the serene wooded countryside of eastern Virginia, near the Chesapeake Bay and about 155 miles southeast of Washington, D.C., lies Colonial Williamsburg, a remarkable village of living ghosts. Here, every day of every year, tourists intent on experiencing life almost exactly as it was more than two centuries ago can meet and chat with blacksmiths, barmaids, bookbinders, silversmiths and slaves—all speaking in the quaint accents common in the 18th century. Over on Nicholson Street, for example, sits a woman in a white linen shift and bonnet. She will be happy to tell you that she is Mary Brockman Singleton, a widow, that she is 50 years old and that she lives in a tenant house with her daughter, Rachel, 26, twice a widow herself. Mary talks about the day her husband, Richard, a "good-hearted, Christian man" and the keeper of the Brick House Tavern on Duke of Gloucester Street, died of grippe, leaving her nearly penniless. She'll confide that she and Rachel barely make ends meet by renting out their six slaves—for 19 pounds a year. These days, Mary worries that, if Virginia and the other colonies declare themselves independent from King George III, she'll lose even that meager income. And, finally, she'll tell you that, yes, she is dead. She died of old age in November 1775.

This woman, whose real name is Katherine Thompson, is so good at being Mary Brockman Singleton, at pretending to be someone who died long ago, that it would be difficult to guess she goes home each evening to her husband of 32 years, a retired navy man, and that she is in fact not a ghost. Colonial Williamsburg is full of people like Mary Brockman Singleton, and that is the whole

Christina Gunning, a house guide, stands momentarily in an oak-paneled guest bedroom where the specter of a hand-wringing woman in a long white gown has reportedly been seen by several people. "I never speculated as to who any of the ghosts might be," says Gertrude Ball Daversa, a member of the last family to live in the house. "We just accepted them. What else could we do? We thought people wouldn't believe us."



The tall windows of the oak-paneled bedroom have reproductions of roll-up bamboo shades, adapted from Chinese versions.

idea—intricately re-creating an entire town exactly as it was just before the signing of the Declaration of independence. And it works—brilliantly. At least it works during daytime. Each evening, as the sun begins to set on this part of Virginia, Colonial Williamsburg takes on an altogether different atmosphere. The living ghosts go home. The houses go dark. A few candles shimmer in the windows of the King's Arms Tavern on Duke of Gloucester Street. Everywhere, the streets are empty, and Colonial Williamsburg becomes deathly quiet. It is at this time each evening, some say, that the real ghosts of Williamsburg, the dead ones, take the stage. Especially in one particular house.

Seen from the moonlit lawn of Market Square, the house at the corner of Nicholson and North England streets looms behind flickering shadows of oak and myrtle. Distinguished by a stately Georgian facade with bone-white clapboards and tall 18-light windows framed by green shutters, the house was erected in 1717 and became home to Peyton Randolph, the speaker of the Virginia House of Burgesses and president of the first Continental Congress. During pre-Revolutionary days, visitors to the house included Thomas Jefferson and George Washington. And before the climactic battle of Yorktown, the Comte de Rochambeau, commander of the French forces fighting alongside Washington, used the house as his headquarters.

Peyton Randolph House practically moans with history: raw unfinished floors planked with durable longleaf yellow pine that could withstand the mud from gentlemen's boots; ornate blue wallpaper hand-flocked with wool imported from England; dark walnut and oak paneling; walls painted ocher; mahogany furniture, moved often in colonial days according to the weather; hand-hammered Sheffield silver; a library with 500 volumes that were bought by Peyton's cousin Thomas Jefferson and became the foundation of the Library of Congress. In the air is a mix of subtle, musty scents absorbed over the years: Candle wax? Smoke from clay pipes? The sweat of slaves?

There is also an air of palpable enchantment. Gertrude Ball Daversa, now 84, grew up in the house. She was in an upstairs bedroom on a steamy August night more than 60 years ago when a strange shuffling noise awakened her. Standing near her bed was a dark-haired woman in a long white gown. Eyes bleary from sleep, Gertude said, "What are you doing?" She thought it was her older sister, who slept in an adjoining room.

The apparition didn't respond but moved silently to the window, then out into the hallway and vanished. Moments later, Gertrude found her sister sound asleep in her own canopied four-poster.

Over the years, there have been reported sightings in Peyton Randolph House of at least 17 different spirits—from the silent woman by the bed to a jolly slave to Jefferson himself. Of course, those who doubt the existence of ghosts are unlikely to be swayed by anecdotal accounts of encounters with dead people capable of moving and making sounds. Still, this house, perhaps for some odd ineffable quality in its wooden construction or its shape or its shadows, perhaps for the suggestibility of those who have dwelled there or passed through, has a reputation. "There is

Is Your House Haunted?

Footsteps, whispered voices in empty rooms. Doors slamming on their own. Ghosts? There are ways to find out. Four out of five ghost reports or sightings, says San Francisco parapsychological investigator Loyd Auerbach, are easily attributable to natural causes such as environmental disturbances from tremors or high-tension power lines. "I had many more calls than usual after the 1989 earthquake," he says. "Most had to do with aftershocks or vibrations caused by trucks rerouted onto side streets." If, however, two or more people witness convincing signs of a recent haunting—an apparition, a ball of light, unexplained sounds—Auerbach may make a house call. He uses a magnetometer to detect unusual magnetic fields, a thermometer and thermal video camera to check for heat variations, a tape recorder to document suspicious noises and a Geiger counter to check for elevated radiation.

In his more than 300 on-site investigations over the past two decades, Auerbach has never seen a ghost. But he says he's seen objects move on their own and encountered other evidence of possible supernatural activity. While he was inspecting one house, the residents sensed their ghost in the living room. Auerbach says he found an odd magnetic field floating in the room. "The people said, 'He's moving!' " he recalls. "And as they pointed," Auerbach says, "this field moved through the house." Once he has diagnosed a haunting, the ghost's hosts are often content to live with the spirit, Auerbach says: "Knowing that there's something physical in the environment helps them to feel vindicated. They say, 'I'm not crazy! There *is* something here!' "—*Sasha Nyary*